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ORIGINAL DEPARTMENT.

LECTURE.

ON THE TREATMENT OF TYPHOID FEVER.*

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GENTLEMEN: It is now too late to speak of the efficient causes of the epidemic, now happily on the decline. It is to be hoped that before another epidemic shall rage in our midst agreement will be attained on etiological points now under dispute; whether, for instance, typhoid fever invariably or generally owes its origin to putrid infection by ordinary fæcal matters, or to blood poisoning by the specific evacuations of typhoid patients, or (as others will have it) to some unknown influence from the soil, or to some pernicious alteration in the water or milk that people drink, or to atmospheric infection by bad drainage, or overcrowding; or whether, lastly, the typhoid poison be schyzomycetes, or the typhoid bacillus of Klebs.

If, however, certainty cannot yet be attained as to causes, the question of treatment none the less demands our serious attention; for the wards of our hospitals are seldom free from typhoid patients, and sporadic cases are constantly occurring in our private practice. We must approach this subject, then, with such light as we have.

Curative Methods.

There exist three grand curative methods: the first has been from all time called expectancy, and is to-day dignified by the qualification, *armed* expectancy. The second, called the "specific method," aims to destroy the contagious germ, the supposed cause of the disease. The third, less pretentious, but in the present state of our knowledge the most rational, comprises various means for counteracting excessive heat production (antithermic remedies) and for the abstraction of pyrexial heat [divers antipyretics, of which the local application of cold is the type].

1. Expectancy.

This method makes much account of hygiene and the *vis medicatrix naturæ*, to which mainly the case of the patient is left. Nature is to be watched severely, rigorously, and whipped into line at the least deviation from the normal march of the disease. Every exaggerated symptom is to be repressed. Has the patient diarrhœa of colliquative form? Opium must be given. Is there constipation? A little Hunyadi Janos. A congestion or catarrh from pulmonary blood-stasis and general weakness? Leeches, cups, or a large fly-blister. Are there ataxic manifestations? Musk, camphor, etc., are ordered.

[Prof. Seé gives a qualified acceptance of the expectant method in mild cases of the regular order which need little medicine, and only the supporting regimè. He adds that the rationality of this system of treatment, when applied to *all* epidemics, is not obvious. What are we to understand by "deviation from the regular type?" It is notorious that certain sporadic cases and certain epidemics do not conform to the classic description; in some the disease is marked by excess of diarrhœa, or by constipation; in some thoracic symptoms are predominant; in some the fever is pseudo-intermittent from the outset. In these cases the excess of diarrhœa, the bronchitis,

*An abstract of a lecture delivered before the Academy of Medicine, and translated from the Bulletin de l' Academie by E. P. Hurd, M. D., Newburyport, Mass.

etc., *is the rule.* The advocate of expectancy, however, has his model in his mind, and every patient is put upon the *laissez faire* or symptom-treating regime; a little dog-grass tea, with nitre, a little vinous lemonade, with broth or porridge, a cataplasm and an enema, complete the prescription. Prof Sée thinks that when expectancy calls itself "armed," it ceases to be *expectancy.*]

The Antiseptic Method.

The antiseptic method has for its object to destroy the germinal principle of the disease after absorption, and even after the entire organism has been invaded by it. Whether the *materiés morbi* be a chemical ferment or a low organism (micrococcus, specific bacillus) antisepsis aims to neutralize or annihilate it. It must be premised that there is a wide difference between destroying a microbe of putrefaction in a flask, and in attacking the same microbe when it has pervaded the whole mass of the blood; and yet it is gravely held by the advocates of the antiseptic treatment of putrid and zymotic fevers, that the same chemical substances which destroy germs in liquids out of the body, have the power to pursue the disease parasite through the most distant ramifications of the vascular system, and into the minute recesses of the tissues. Here we have a list of specifics theoretically infallible, which, already long, receives additions every day. Let us glance at these germicides.

1. Chlorine: recommended fifty years ago by Bouillaud and Chomel, now seldom used internally.

2 Mercurials: recommended in 1847 by Lerres (inunctions and the black sulphuret). This medication still survives in the calomel treatment of Wunderlich, Liebermeister & Hallopeau.*

3. The sulphites and hyposulphites, which derive their ancient repute from the property which sulphurous acid possesses of arresting fermentations. This is Polli's famous treatment, combated vigorously in Polli's own country by Semmola, and now virtually abandoned.

4. Iodine, to which Binz has recently called attention, as a powerful antiseptic of the laboratory; Liebermeister and Vulpian have tried it without success.

5. *The Salicylic Group.*—In this class we have the following acids, all of them antagonists of fermentation and decomposition: (*a*) carbolic acid; (*b*) thymol; (*c*) benzoic acid; (*d*) salicylic acid, which is the most potent, most inoffensive, and the most used; (*e*) resorcine; (*f*) kairine, the subject of recent experiments. All these have a similar chemical composition and analogous effects, being bactericides in suitable quantities.

Action of Antiseptics on Micro-Organisms.

Of the microphytes which give rise to decomposition, we may omit the torula of saccharine fermentation and the mould fungi, confining our attention to the schizomycetes or bacteria, whose infecting property is not contested. We remark that contagion operates by quantities that are infinitesimal. So minute the infectious matter, so rapidly does it multiply in the organism, that we cannot regard it as a chemical ferment, but as a product of life (contagium vivum).

Designated under the name of bacteria, the microphytes of which we are now to speak consist of simple cells, without chlorophyll (micrococci), or they have the appearance of roots or filaments (bacilli). Their fecundating power is such that in twenty minutes, at the temperature of the body, they may double in number; their vitality surpasses that of all other organisms. They multiply by bipartition, or by spores. The latter possess extraordinary vitality, preserving their properties unimpaired for years, while their filaments perish.

These bacteria live principally on albuminoids, and of the non-azotized substances that serve them as nutriment, they subsist best on the saccharine. Water is indispensable; the greater part depend on free oxygen, such as the bacillus of malignant pustule; others, however, subsist without free oxygen.

Their Place of Origin.—All are believed to come from the soil. Nœgeli and Pettenkofer, who maintain the theory of the influence of the soil on the development of microbes, consider that a great dryness of the soil is necessary, and intense atmospheric currents. This is the opposite of what is generally admitted; great epidemics are attributed especially to dampness of the soil. Soyka maintains, as a result of numerous experiments, that the schizomycetes, after undergoing development in ground moisture, obtain access to the air, especially when favored by violent winds. He affirms that he has witnessed this fact.

If this view be correct, we understand the mode of infection by water and by milk.

Concerning the micro-organisms of typhoid fever, three kinds are found with great regularity attendant on this disease:

1. Certain "micrococci," which have but a sec-

*[Note by the translator. It still survives and makes a bold front in this country, and in the practice of Dr. James C. Wilson and other eminent authorities has been highly successful. Vide New York *Medical Journal*, March 17, 1883, p. 297.]

ondary importance, being found in the blood and tissues of other diseases as well.

2. The bacillus of Klebs.

3. Eberth's bacilli.

The latter are short and thick; those of Klebs are long and thin, and found especially in the parts where the disease commenced, principally in the necrosed portions of the intestine.

According to Koch, the bacilli which are found in the necrosed parts are those of Klebs; but in general all bacilli found in the deeper layers of the mucous membrane are those of Eberth. These have the most probable etiological relation to typhoid fever.

Introduction into the Economy.—It is rare that they penetrate the system by the digestive organs; the acids of the stomach destroy them. Their germs doubtless exist in all liquids; it is then probable that we introduce them into our food and drink, but they are not absorbed, at least in a healthy state of the *primæ viæ*.

The lungs constitute the largest absorbent surface, yet at autopsies we rarely meet with microbes in the lungs. How do they get access to the blood? We know only by conjecture.

Diffusion of Micro-Organisms.—The thick, club headed rods of Eberth are the sole bacilli of typhoid fever, according to Koch and Friedlander. The filaments of Klebs are seen only in the necrosed parts.

The "micrococci" are but a manifestation and accompaniment of putridity, while the bacilli are etiological.

First Appearance of the Rods (Bacilli).—In the first week the bacilli are found in abundance at the bottom of the intestinal glands, and even in the adjacent parts. They are not found in the deeper tissues. In the second week, and the beginning of the third, they are found in the glands of Lieberkuhn, and in the mucous membrane itself, undergoing development with the progress of the disease.

Lymphatic Glands.—Eberth found the lymphatic glands full of microbes from the eleventh to the fourteenth day. Microbes were found in the spleen after the fifteenth day. Klebs has found them in the brain, and in the arachnoidean space, in great abundance. They have not yet been found in the kidneys. Eppinger has found the specific bacilli in the larynx, and in ulcerations of this organ.

Resumé.—Beginning in the intestinal glands (rarely in the bronchioles and pulmonary alveoli), the bacilli remain awhile in the bottom of the glands, then advance to the deeper parts, penetrating to the muscles of the intestine, then to the serous envelope, and the lymphatic spaces. A little later they invade the mesenteric glands and the lymphatics of the abdomen. Later still they appear in other organs. After the fifteenth day, only the debris of the mucous membrane remains.

The question now reappears: Can antiseptic remedies, introduced into the economy, destroy these micro-organisms? Have they any effect on the spores, so tenacious of life, as before said? Can they, at least, prevent the development of bacteria?

Bucholz has sought to determine what is for each antiseptic the minimum dose necessary to arrest the development and proliferation of bacteria. In this connection, he cites, in the first place, corrosive sublimate, which acts in a solution of $\frac{1}{200000}$; of thymol and benzoate of soda, $\frac{1}{2000}$ suffices: of benzoic acid, $\frac{1}{1000}$; of salicylic acid, $\frac{1}{850}$; of carbolic acid, $\frac{1}{200}$; of quinine, the same. Chloral, iodine, and salicylic acids, when employed to prevent the diffusion of parasitic microbes, act in more feeble dilution.

These data go to show that as far as the internal action of certain of these substances is concerned, it would be necessary to use large quantities of the medicament to rid the tissues or liquids of the organism of the morbific bacteria: these doses would certainly be toxic.

Phenic acid may be an excellent antiseptic for wounds, without having any power to act on micro-organisms which have penetrated the economy. The same may be said of many other germicides.

Gueneau de Mussy, Hèrard, Hallopeau, prescribe one to two gram doses of salicylic acid. Lille orders carbolic acid. All this is a mistake, for one of two things must be intended: either to pursue the typhoid bacillus in the intestines, which is impossible with these remedies, for they are absorbed in the stomach, taken into the blood, and reappear in the intestines under the form of salicylate of soda, with feeble or no antiseptic properties; or else the medicament is intended to antagonize the putrefaction of the contents of the intestines. In the latter case it is not given as an *anti-bacillic* remedy, but to counteract putrefaction, and prevent resorption of intestinal matters. This brings us back to the old notion (well nigh obsolete at the present day) of intestinal septicæmia.

[Prof. Seé concludes this heading by condemning the antiseptic method as irrational, and if logically carried out, dangerous. The largest doses which it is possible to give with safety, of

salicylic acid, which is the only antiseptic to be seriously thought of in this connection, neither destroy the disease germs nor prevent their dissemination. He has known of a rheumatic patient, who while taking six to eight grains daily of salicylic acid, was nevertheless attacked by typhoid fever, which pursued its usual course, in spite of such efficient preventive treatment. He would not, however, entirely banish the salicylic group from the treatment of typhoid fever, for they are sometimes useful as antiseptics.]

(*To be continued*).

COMMUNICATIONS.

SCARLATINA: THE POSITION OF THE SYMPATHETIC NERVE IN ITS SYMPTOMATOLOGY AND BELLADONNA AS A MEANS OF THERAPEUSIS.

BY HENRY BEATES, JR., M. D.,
Of Philadelphia.

Read before the Northern Medical Association of Philadelphia, March 9th, 1883.

Attendance upon a number of instances of scarlatina during the recent epidemic, has afforded ample opportunity of studying phenomena that early attracted attention, and impressed me with the fact that the materies morbi principally affects the region, the healthful accomplishment of the functions of which depends upon the integrity of the nerve designated in the title. These phenomena exist uniformly but to a varying degree of intensity in every instance of the disease. In a paper, it is impossible to describe in detail the characteristics of type or the peculiarities of individual cases, and it remains alone to be remarked that in some there may be a conspicuous absence of one or more symptoms, but invariably the principal element, *altered nerve function*, is manifested in every case. The materies morbi is a definite and distinct poison that affects mankind in *one* manner only and through *one* system, and the intensity of its effects with the so-called types of scarlatina, are but varying manifestations of *one* operative cause, differing not so much by imaginary small and large doses of the toxic agent, as individual or constitutional powers of resistance to its influence. This assertion is based upon the indisputable fact that the most malignant types, by contagion, are frequently contracted from the mildest, and vice versa. The phenomena to which attention is especially directed comprise *rapid pulse*, rise of temperature, and coincidently therewith, changes in the character of the pulse, *epigastric pain*, vomiting, gastric irritability, *diarrhœa* and its liquid character, cephalalgia, vertigo, delirium, convulsions, coma, angina, condition of tongue and the exanthem. It is not to these mere conditions that reference is made, but I desire to review their peculiar development and manifestation. Under *pulse* one fact occasionally met is, that during the first two or three hours of the stadium invasionis, it is occasionally retarded, *i. e.* when the temperature has already risen to 100° its rate remains normal. As a rule this does not obtain. Again, when the temperature indicates a bodily heat of 104° and 105° and the exanthem is manifesting itself, the pulse-rate is anywhere between 130 and 160, but when compared with the force of the cardiac action, it is *surprisingly compressible*. Vomiting and gastric irritability are differentiated because the former occurs spontaneously while the latter manifests itself by forcible emesis only when liquids or solids are ingested. The deeply seated epigastric pain is sometimes the very first manifestation of the disease, and when not complained of, can, with few exceptions, always be found by firm pressure. This symptom, when it is remembered how frequently desquamative nephritis proves a sequel of scarlatina—that diarrhœa of a liquid character is so common with the pain; that parenchymatous nephritis of a chronic type is coexistent with grave lesions of the renal ganglia; that these renal ganglia are a portion of the sympathetic nervous system—possesses a significance the importance of which will be appreciated as we advance.

It may be well to emphasize that, in scarlatina, the cortical region of the kidney is affected, and that the lesions of the renal ganglia co-exist in those instances of chronic renal disease characterized by cortical changes. Cephalalgia, vertigo, delirium, convulsions, and coma, are regarded as manifestations of the one cause, the special type of the symptom being determined by the individual peculiarities or varying powers of resistance. Angina constitutes one of the first evidences of perturbed function, still better demonstrated by the "strawberry tongue," which usually develops twenty-four hours later. The exanthem is a direct result of *vaso-motor* disturbance, and needs no especial consideration at this time. The property *irritability*, so well known to result in paralysis, if its influence be intensified and prolonged, plays an important role in the symptomatology.

Before proceeding farther, in order that our memories may be refreshed by the picture of scarlatina painted by authors, quotations will be made from those most highly esteemed.

Anderson remarks that, of the *early* symptoms, *vomiting* is sometimes the only noticeable feature.

Aitken: It has been usual to give the name simple and benign to those cases where the fever maintained an inflammatory type, and where the perceptible *localizations* of the disease are expressed by the exanthema, severe catarrhal sore throat, and simple hyperæmia with catarrh of the kidneys. The primary fever may be sudden in its attack, or the patient may complain of weariness and depression for some days, or a feeling of sickness or slight indisposition during the period of incubation. The *early* symptoms, whatever be the variety, are *headache*, pains in *back* and loins, loss of appetite, sickness, and white tongue. Especial attention is directed to the fact that the pulse is *rapid in comparison with the degree of pyrexia* in the early stages.

Niemeyer: While few suffer from prodromal symptoms, the majority of victims are attacked *suddenly*. A sense of burning heat, *nausea* or actual *vomiting*, severe headache, feeling of great relaxation, pains in limbs, with a pulse of 120 or 130, characterize this type (simplex). Observe here that this rate of pulse obtains when the pyrexia has reached 104 or 105 degrees. *Pharyngitis* occurring *prior* or coincidently with the above, should lead us to suspect the great probability that even at this time we have to do with scarlatina.

Trousseau, referring to the general characteristics of the disease, says: As a general rule, I repeat, the period of invasion is *very* short in scarlatina. Continuing, he mentions the *frequent pulse*, and remarks, this is an important fact; for in studying the disease in its component parts, in speaking of scarlatina without eruption, we find that we often form our diagnosis solely from the *frequency of the pulse*, which is rarely met with in other affections liable to be confounded with scarlatina. Diarrhœa and vomiting accompany the pyrexia of invasion, and sore throat *always* shows itself *simultaneously* with the fever!

These serve to illustrate the general tenor of the descriptions by our highest authorities, and time will not further be consumed by multiplication of similar remarks. This brief review emphasizes the fact that *early* we have the phenomena of disturbed function dependent upon irritability of a depressing nature. Now observe the descriptions of the so-called anginose and malignant types, and notice the similarity of phenomena, only, as it were, having their nature magnified and rendered cognizable. Trousseau: There is a frequency of pulse *still greater* than in simple cases; and sometimes in adults from the fisrt day *of the fever*, even before there is any appearance of the eruption, the pulse is 130, 140, 150, or even 160. Disturbance of the *nervous system* at the same time supervenes in the form of great restlessness, convulsions, invincible insomnia, and delirium.

A case illustrative of scarlatina maligna is mentioned: A lady had been all day in frightful delirium; she had incessant vomiting, intense fever, a pulse too frequent to be counted, and extreme dryness of skin. The case terminated fatally that day.

In one of my own cases, a male child three years old was sitting at the tea-table eating, when he suddenly fell back in convulsions; vomiting occurred and high fever rapidly developed. He was seen within three hours of the accession of the disease. Coma already was pronounced; temperature 105.4; pulse somewhere above 190. Before morning the child perished. Two sisters were thoroughly convalescent from scarlatina anginosa.

Regarding the pyrexia, Trousseau and Stillé teach that it rises higher than in any other exanthematous fever. This well-known fact is emphasized!

Aitken narrates an account of scarlatina anginosa as follows: The symptoms of the anginose variety are more violent than in the preceding species; for *nausea* and *vomiting*, great *restlessness*, headache, and some *delirium*, frequently occur as early as the second day. The heat of skin is often more considerable, frequently reaching 105°, while the pulse is quick, feeble, fluttering, and indicative of the extreme debility the poison has occasioned.

Of the malignant types, sphacelation, etc., etc., still further disclose the nature of the effect of scarlatinal poison, and are demonstrations of an irritative principle that in increased activity results in paralysis of the nervous structure that governs nutrition of the area affected. That the poison is preëminently of a depressing and paralyzing nature is, by this time, apparent.

Regarding sequelæ, mention is made of only the ocular and aural. The sympathetic nerve, we know, presides over the functions of organic life, *i. e.*, *nutrition*. It is characterized by being composed of vesicular and gelatinous tissue, and arranged in a series of ganglia that extend from the subcranial fossæ to the termination of the coccyx. Filaments supply the muscular coats of the arteries, and accompany these vessels into the interior of the cranium and supply their remotest ramifications. The *capillaries* are *entirely under the*

control of this system! Throughout its course along the cervical and thoracic spine, numerous intercommunications occur between it and the pneumogastric nerve. This fact is of interest in so far as the explanation of the occasionally seen slowing of the pulse, during the first few hours of the augmentation of temperature, is concerned. It is a well-known fact that drugs possessed of the power of increasing the heart's action by stimulation of the sympathetic or accelerator nerves, exert a similar effect upon the pneumogastric or inhibitory nerve, which action, for a time at least, is equal, the one to the other. Again, that this influence is due to an irritant, is demonstrated by the proneness to emesis and gastric irritability. The sympathetic or accelerator of the heart supplies this viscus with three pairs of trunks. The superior cardiac nerve originates at the superior cervical ganglion, which latter supplies the internal carotid artery with filaments and regulates the supply of blood, and consequently the nutrition of the area of distribution of this vessel.

In view of these facts, it requires no effort to comprehend the lesions, so common, that result in more or less destruction of the ear and hearing. Especially is this true when the continuity of structure is demonstrated by the direct intercommunication between the facial and auditory nerves, the intimate connection with the sympathetic by means of the members of the carotid plexus that unite the casserion ganglion of the trifacial, and through this, with the sphenopalatine ganglion, and again by the Vidian. The complete circle of nervous tissue is here seen, and the early manifestations of altered blood supply in pharynx, etc., are easily understood. While dwelling upon the superior cervical ganglion and its associations, it may be well to refer to the ulcerative keratitis and by no means infrequent blindness that occurs, and indicates that, through communicating filaments, the ophthalmic ganglion is a structure in continuity, and that this ganglion by its short ciliary branches includes the eye in the circle chiefly affected by scarlatina. These sequelæ further demonstrate the nature of the poison of this disease, and prominently assert its depressive influence and power to stop nutrition. The dura mater of the brain and its vessels are supplied by twigs of this same system, and one explanation of perverted intellection is thereby explained. The intimate association of the cervical ganglion with the nerves supplying the mucous membrane of the pharynx and that covering the palato-glossar and palato-pharyngeus muscles, its indirect union with the chorda tympani and filaments supplying the lingual papillæ, satisfactorily explain why symptoms of angina are so easily seen in the earliest hours of the disease. In the throat the evidences of depressed function and vaso-motor paralysis are seen, and the nature of scarlatinal poison made plain, hours before the cutaneous phenomena present themselves. The middle and inferior cardiac branches connect with the recurrent laryngeal branches of the pneumogastric, and are principally of interest in an anatomico-physiological sense, and require no especial consideration here.

The great solar plexus and especially the renal ganglia and plexus with the trisplanchnic nerves, without occupying time in detailing their points of connection, it may be stated, satisfactorily explain why, when an irritative and depressing poison like that of scarlatina affects them, we have evidences, first, of epigastric pain, and if its influence continues and is intensified, the resulting interference with nutrition is followed by the paralytic or liquid diarrhœa. We now consider pyrexia, and call to mind that increase of temperature is dependent upon two principal factors: either heat production is normal and heat elimination diminished, or heat production is increased while its elimination is normal. This applies as a general rule. In some conditions elimination is increased but production is in excess of elimination, so that the total result is pyrexia. Time will not admit of detailing the scientific and profound researches of Prof. H. C. Wood in his studies in fever, and I can but refer you to his monograph for further investigation. It remains to state the facts he has proven.

First. External heat applied externally to the body of normal animals and man, so as to elevate the internal temperature, produces derangements of the functions of innervation, respiration, circulation, etc., etc., *precisely similar to those seen in natural ferer;* the intensity of the disturbance being directly proportionate to the rise in temperature.

Second. Heat applied locally to nerve centres and to the heart, produces in the functions of these organs those disturbances which are *familiar phenomena of fever; the intensity of disturbance being directly proportionate to the excess of heat.*

Third. The withdrawal of excess of heat in acute fever is followed by a relief of the *nervous* and *circulatory* disturbances. It is to be remembered that we here have to do with constitutions in other respects normal, and that the results are dependent upon the *artificial, external* application

of the essential phenomenon of fever, or that condition known as pyrexial. If the order of cause and effect be reversed, and the physiological be compared with the pathological, we will state that a poison PRIMARILY affecting the centres controlling the phenomena of heat production and heat elimination, and producing in these centres the same changes, either of structure or of functional activity, that *follow secondarily to artificially applied heat*, will be followed by fever; *i. e.*, increased bodily temperature.

Wood inquires: What is the mechanism by which the production and dissipation of *animal heat* is regulated in the animal organism; and, is this rise of temperature in fever due to the excessive retention or to abnormal production of heat, or to both combined? By an elaborate and most carefully conducted series of experiments, he has shown that section of the spinal cord is followed by increased heat elimination, and that the degree of this depends upon the proximity of the section to the brain.

In these researches it was ascertained, however, that the total amount of heat eliminated was greater than that produced, and while the surface of the subject was warmer than the norm, the total or bodily temperature was really reduced. When section of the cord is made, there is practically an organic paralysis of the vaso-motor nerves and a consequent dilatation of the peripheral capillaries, with, of course, increased cutaneous hyperæmia. Under these circumstances it is cerainly manifest that increased elimination of heat must occur.

In this fact lies the answer to the question, viz: the mechanism controlling heat elimination is the vaso-motor nerves or system. The parallelism of the phenomena attendant upon artificially induced vaso-motor paralysis and that due to the poison the manifestations of which are denominated scarlatina, is at once apparent! The variations of this one symptom in the latter from the former, it must be remembered, are due to the incomplete paralysis resulting from the materies morbi and the ability with which compensatory actions on the part of the economy can be exerted. Artificially, the paralysis is complete and irreparable; in scarlatina it is partial and susceptible of influences through compensation. It will immediately be remarked that in scarlatina we have a *total increase of bodily temperature;* while in the experiments there was, in reality, a diminution. This apparent discrepancy is explained by the following considerations: In physiological investigation a single point is disturbed and the rest of the system is normal, while in scarlatina the vaso-motor system is not the only portion affected; and it is probable that a caloric centre may, by the same influence that *paralyzes* the vaso-motor centre, stimulate the heat nucleus.

The following will prove if this hypothesis is admissible and true. Division of the spinal cord above the origin of the splanchnic nerves is usually followed by an immediate very decided increase in the amount of heat dissipated from the body, and also by a decided lessening of the amount produced. Before explaining these results, we must recollect that chemico-vital processes play an important role in calorifaction, and that active circulation, muscular action, and the consequent increased functional activity, dependent, it is true, upon the integrity of the nerves governing them, of themselves produce caloric; and when these functions are, in a measure, abolished, there is a decided diminution of heat production. This condition, do not forget, obtains only in a healthy animal, whose vaso-motor system is artificially paralyzed, and that while in this physiological condition we have heat eliminated in excess of production, in scarlatina we have the *same* eliminative factors at work, but at the same time *production of caloric in excess of that dissipated*, and a consequent pyrexia.

This increase of heat production may be stated to be dependent upon stimulation of a caloric centre, which conclusion would naturally lead us to state that the poison of scarlatina producing vaso-motor paralysis and consequent increased heat elimination, at the same time resulting in heat increase, must possess the property of stimulating the caloric centre while it simultaneously paralyzes the former; *i. e.*, the vaso-motor centre and caloric centre are differently affected by one poison. The vaso-motor centre we know to be situated in the floor of the fourth ventricle, near the apex of the calamus scriptorius, and if an effect to all the tract below this point results in increased heat elimination without any increase of production, there must necessarily follow a diminution of bodily temperature. This, it must be emphasized, will obtain only when a *depressing or paralyzing* influence exerts itself on the path indicated. Physiological investigation proves the above to be an indisputable fact, and also demonstrates that "section of the medulla oblongata, at its line of junction with the pons varolii in the dog usually leads to an elevation of temperature if the medullary vaso-motor centres are not in any way compromised."

To be continued.

Hospital Reports.

BELLEVUE HOSPITAL MEDICAL COLLEGE.

CLINIC OF PROF. LEWIS A. SAYRE.

Reported for the Medical and Surgical Reporter, by Edward Develin, M. D.

Case 1. Anchylosis of the Elbow-joint.

Gentlemen: I here bring before you this man, suffering from an ancient fracture at the elbow-joint, which occurred last March and has been allowed to consolidate in a most unfortunate position—the arm being flexed at an obtuse angle of about one hundred and fifty-five degrees with the palm of the hand posteriorly. Fracture of the elbow-joint forms one of the most serious fractures we have to deal with. It is liable to give more trouble than any other fracture, but if you are compelled to cure it with anchylosis, it is necessary to place the arm in such a position that it will be of use to the patient. We are in some cases satisfied if we can compromise in the fracture and effect a cure with anchylosis if you cannot cure it with motion; but if you effect a cure with anchylosis with the arm at right-angles with the forearm in the position of semi-pronation, so that the palm of the hand can be brought to the mouth of the patient, you secure a useful arm; if the arm is straight, the man can only use it to carry baskets or such articles; the arm should be flexed in such a manner that the forefinger should be capable of entering any external orifice of the body.

The question before us in relation to this man is whether this fracture is completely consolidated, or whether it is only fibrous anchylosis of the joint, and can be broken up. If there is any motion here at all, I shall attempt to break up the anchylosis; but if there is no motion whatever, I would advise exsection. I shall now make firm and strong pressure upon the arm, and endeavor to break up the adhesions. (Dr. Sayre now stepped behind the patient, and bringing the man's shoulder against his own chest, with his right hand grasped the forearm in its middle third, while with his left he grasped the upper third. An assistant now held the arm firmly while Dr. S. made strong pressure by drawing the forearm towards him. At the first attempt no movement could be detected; the attempt being again made showed no signs of movement, but at this point the patient complained of faintness, and a slight movement was then detected; the fainting condition of the patient causing the muscles to relax, and advantage being taken of this condition, still greater movement was made, until gradually the palm of the hand was brought over the mouth. The patient, having completely fainted, was then laid on a table, and both flexion and rotation of the forearm secured, all adhesions being completely broken up.)

Having now thoroughly broken up all adhesions, now comes an important point—to prevent difficulty following this operation—as I desire to cure this man with free movement of the arm; if I continue these movements of flexion and rotation, I might provoke serious difficulty, and induce inflammation and suppuration at the joint.

In order to prevent inflammation following, I shall bandage the arm snugly, and shall place a compress over the middle and lower third of the brachial artery, so as to prevent the full supply of blood to the arm, and by this means lessen the liability to inflammation; the arm must now be kept perfectly quiet for five or six days, during which time cold water applications will be made to it. Now use compression with judgment, for if it be too severe, you will provoke ecchymosis and gangrene of the parts; let the compress be applied with just sufficient force to check in part the circulation of the limb, but not to stop it completely.

In applying the compress, you observe one of my assistants places his finger upon the radial pulse, while another puts the compress upon the brachial artery, and I now secure it with a bandage. Should the pulse of the radial artery stop, the compress is too severe, and must therefore be applied with less pressure; you must regulate your pressure by the pulse. We have now bandaged the arm at right angles, and I now support it with a sling.

The House Surgeon will keep this man in the ward perfectly quiet for a time; should the arm become swollen and the fingers cold and blue, the compress must be removed at once, and reapplied as I have instructed you. In about six days you can remove the compress and bandage, and make slight movement at the joint; if you omit this the joint will certainly become anchylosed; you can then omit the compress over the artery, again applying the roller bandage to the arm, and in a few days take it down again and make passive motion. Continue this treatment, and in a few months the arm will have perfect motion and may be as useful as it was before.

I here show you a small thermometer, which is called Seguin's surface thermometer, by which the slightest rise in the temperature of any part of the body will be registered when placed in contact with the skin. Had I been unable to move this man's arm perceptibly, I should have used this thermometer upon his elbow, and if I had found an increase of temperature on the following day, I should be sure that I had made some movement of the joint, although it was imperceptible at the time it was made, thereby showing that there was not bony anchylosis, and that movement could be secured. I should then have administered an anæsthetic and broken up the adhesions; but as the man became faint, I noticed his muscles began to relax, I therefore took advantage of this condition and redoubled my efforts to secure movement, and with what result you have already seen.

I will bring this man again before you, and we will then note the result secured by this treatment.

Note at the following clinic.—This man you will remember I presented to you at our previous clinic. He was then suffering from anchylosis of the elbow-joint, at which time I broke up the anchylosis. During this time the House Surgeon has re-dressed the arm as previously directed, and informs me that no constitutional disturbance followed the operation; you observe that I can now make moderate flexion and extension of the arm. Passive motion is now to be made every day, but the movements must

not be carried to such an extent as to excite inflammatory action at the joint.

This may be known by the pain lasting more than twenty-four hours. If the pains which are produced subside during the day, then you can continue the movements, increasing them every day; but if, on the contrary, the pain lasts over twenty-four hours, you must cease further movements until all pain has subsided, and then do not make your movements quite so freely.

It is now evident that if this treatment be followed out carefully, this man will have free motion at the elbow-joint.

Case 2. Anchylosis of the Elbow Joint Induced by Erysipelas.

This patient now brought before you has been suffering from a severe attack of erysipelas in the forearm, and is brought here to-day to be treated for anchylosis of the elbow-joint.

It is possible that the inflammation may have caused this anchylosis, the House Surgeon informing me that the elbow has never suffered from any traumatic injury. The joint then, very probably, has suffered from the general inflammation also, and the anchylosis is the result. There is no active disease at the present time in the joint, as I can press upon it firmly without causing pain. Here we have then a dry joint. Now, on taking the arm firmly and endeavoring to make gradual flexion, we find a slight movement has been secured, and knowing that slight movement, though it be limited but rapid in its action, will start the secretions of the joint, we will make such movements, at the same time gradually flexing the arm; you now observe that the adhesions are gradually being broken up. During the time in which this arm has been at rest, the synovial membrane has not secreted any fluid, and hence the joint becomes dry, and anchylosis has followed. You now observe that the anchylosis is completely broken up.

Gentlemen, this is a practical case, and in relation to which I will venture a few remarks concerning those men who are so-called *natural bone-setters*. A few professional men in Europe have recently honored them by mentioning their names. Now, the important point which I desire to impress upon you, is the necessity of moving the anchylosed bones at the proper time. In this case before you, the patient might, for lack of proper treatment, have gone on for some time with the joint in this anchylosed condition, until, falling into the hands of these so-called bone-setters, they having no reputation or professional standing to uphold, by main force break up the adhesions, which the professional man should have done and would have done, had he known at what time to act. The gradual development of both bony and fibrous anchylosis should then attract your earnest attention in this direction.

Case 3. Gun-shot Fracture of Humerus.

Male, aged twenty-five years. This young man, in July last was accidentally shot through the left arm, the humerus being badly shattered.

The rifle ball (No. 45 cartridge) entered at about the middle of the arm. It was then thought that the only chance for his life was amputation; he, however, refused to submit, and rode sixty-six miles on horseback through the mountains of Montana in search of surgical aid, and consulted five medical gentlemen, who all agreed that amputation was necessary; he, however, would not submit to an amputation, and it was then decided to remove the fragments of bone, and saw off the jagged portion of the upper and lower fragments of the humerus. This was accordingly done, the patient being under ether and the operation conducted under the spray. The bones removed, when united, measured two and seven-eighths inches.

A most remarkable union has been the result of this operation; it is, however, simply ligamentous union, as you observe that the back of the hand can be readily twisted to the front, he being unable to raise the forearm; but you will here observe that upon the forearm being brought up to a right angle, he has a wonderfully powerful grasp of the hand. It is, however, not as powerful as the right hand, but is undoubtedly much better than an artificial arm. He states that he was confined to his bed for twenty-five days, and then for two weeks the arm was kept in a sling, after which time it was allowed to hang straight. By this means the weight of the arm has made too much extension, and the result is, as you see, the fragments have been separated, and in this manner prevented the possibility of bony union taking place. In many cases of ordinary fracture of the arm, we have non-union of the fragments from this same reason. I desire you to note my objection to Buck's continued extension in this matter. Continued extension I do not deem the proper treatment for fracture; what you need in a fracture is to make your extension and counter-extension until you have reached the point of accurate adjustment of the fractured bones, then use your means of *retention* or *fixation*, to prevent any possibility of the fragments overlapping. All the extension that is needed is to bring the parts into exact apposition; the muscles and vessels are then brought to their normal position also. Now by retaining them in that position there is no tendency to spasm of the parts, but if you continue the extension by means of the weight and pulley, there is a reflex spasm, a struggle on the part of the muscles to regain their natural position. This goes on day by day until the muscles are overcome and the bones become separated, and non-union is the result. I do not remember the exact per cent. of cases of non-union in fracture of the femur as given me by Mr. Hudson, but I attribute such non-union as the result of the treatment by this continued extension.

If you make your extension to a certain point and there retain the limb, I know of no reason why you should not effect a cure without shortening of the limb, but I do know that in some cases of fracture of the femur I have seen the patient recover with the same length of limb as previous to the injury.

It is certainly much better to treat the case with the hope of securing the natural length of the limb, than to make up your mind at the commencement of the treatment that shortening must inevitably occur.

This probably has been the case in this instance. It is now somewhat late to form any great anticipations in this case; I however intend to apply

the plaster bandage, and by this means form a support for the elbow, and also secure a cap for the shoulder. In this manner we shall bring the fragments closer together, and thus attempt to secure bony union in the place of the ligamentous union now existing. I do not, however, endeavor to bring the upper and lower fragments together in this case, owing to the ligamentous union which has already taken place. We will, however, form a shell for the arm, retaining the forearm at a right angle, as in this position it is of the most use to the patient. I notice that the elbow-joint is perfectly sound, and you can all observe the point at which the bone was sawn across by its projection above the elbow; the section being made about half an inch above the condyles, the olecranon is retained in its natural position.

We will now apply the plaster bandage, previously enveloping the arm in a piece of flannel; we pass the bandage from the wrist upwards, it is not, however, applied tightly, but forms a complete shell. The roller is now passed from the elbow over the left shoulder, bringing it under the axilla of the right side, then passing across the chest to the left shoulder down to the bend of the elbow posteriorly, and we thus form a sling for the arm; these turns of the roller being repeated as often as the case may require, the bandage then passing around the humerus and enveloping the whole. In this manner we secure a perfect support for the arm, and prevent any dragging upon the ligamentous union; and by keeping the arm quiet, earthy matter may perhaps be deposited in this cartilaginous material and ossification ensue. As soon as the plaster is set, we remove those bands passing across the chest and back, in order that the right arm may have perfect action.

In case no bony union takes place, we can sometimes excite fresh inflammation in the parts by passing an electric current through the ligamentous junction. In some cases it is necessary to make a fresh section of the bones and wire them together; in this case we will first try what rest and fixation will do.

I will endeavor to bring this patient again before you at a future clinic, and we will then note the results secured.

Medical Societies.

PROCEEDINGS OF "THE COLLEGE OF PHYSICIANS OF PHILADELPHIA."

ewer Gas, and its Alleged Causation of Typhoid Fever.

BY GEORGE HAMILTON, M. D.

[Read March 7, 1883.]

(*Continued from page* 462.)

In this connection it must be stated that the reports of the Board of Health of Philadelphia show, unmistakably, that in the central portions of the city, where sewers and water-closets are most numerous, there is, as a rule, less typhoid fever and diphtheria than upon the outskirts, adjacent to the country; and this was the fact in regard to bilious remittent fever, before it gave place to typhoid. Neither is it matter of surprise, for, just in proportion as the streets have been extended into the suburbs, graded and paved, houses erected thereon, and sewers constructed to carry off the surface drainage, a diminution of fever, whether intermittent, remittent, or typhoid, has been the beneficial result of such improvements. In support of this view we have the testimony of the late Dr. J. K. Mitchell, the distinguished and brilliant Professor of the Theory and Practice of Medicine in "Jefferson Medical College," as follows: "In December, of the year 1850, he was called to consult with the late Dr. Gebhard and the writer in a fatal case of typhoid fever, in a house on 16th above Summer street—at that remote period an outskirt of the city. On his first visit the doctor informed us that he was scarcely ever called upon to visit a patient affected with typhoid fever in a large circle of practice in his own section of the city, but that nearly all such cases were, like the present one, in the suburbs, and in consultation. Now the important fact in this connection is, that in his own central position sewers, water-closets, and the usual well in the yard, were almost everywhere, whilst in the suburbs they were comparatively few in number, the water-closet exceptionally rare. Does it not seem singular then, that, despite the improved, the scientific, the sanitary plumbing of the present day, "nine houses out of ten, on Fifth Avenue, New York, are not safe to live in;" and that all the actual appliances for the exclusion of sewer gas should be torn out, and others of an effective character be constructed in a separate building or annex? Dr. Mitchell also made allusion to the greater prevelance and fatality of fever in the country, as related to him by students from different sections of the United States.

In the paper by the writer upon this subject before the College of Physicians of Philadelphia in 1879, Mr. Henry Dupont, in reply to a note, stated that his impression was that, in the years 1840–1–2–3, there were but few cases of typhoid fever among the thousands of operatives and their families on the Brandywine; and this impression was corroborated by a note from Dr. Jos. P. Chandler, a practitioner of that section, in which he said that whilst a very few cases *seemed* to owe their origin to local causes, his experience was perfectly in accord with that of the writer, that the disease nearly always showed itself in the houses of the farmers, and that no matter how well situated upon an eminence, with drainage in all directions from the residence, this did not secure them from attack. This is but a confirmation of the views long ago expressed by Dr. James Jackson, of Boston, and Dr. Nathan Smith, whose opportunities for observing the origin, development, and progress of the disease, were exceptionally abundant. In a note sent to me a few days after the reading of the paper just alluded to, the writer declared that nothing was more erroneous than the current of popular opinions in regard to the causes of typhoid fever, and, in proof of this, cited the condition of the streets of one or two of the most populous and commercial cities of Africa, abounding, as they did, with every conceivable

species of filth, emitting a stench nauseous to the last degree, and yet typhoid fever prevailed to a very slight extent. This statement is in accord with one quoted by Prof. Hamilton, in his paper, before alluded to, to this effect, that in Canton, filthy beyond measure, typhoid fever and diphtheria are almost unknown.

In further support of these views, a physician of New England has informed the writer that a few years ago he addressed letters to about fifty practitioners, in different parts of the State in which he practiced, asking their experience in reference to outbreaks of typhoid. The answers, with very few exceptions, were, that the rural sections suffered the most, whether in regard to proportionate number of cases or fatality. Thus it now appears, as it did in the time of Nathan Smith and James Jackson, that typhoid fever outbreaks occurred without the possibility of referring them to the conjectural local agencies now in favor. Physicians who have not enjoyed sufficient opportunities to observe the origin and progress of tyyhoid fever, and sanitarians, without medical experience, are the most positive in opinion in regard to the primary causes of typhoid fever; whilst Trousseau, Flint, Sr., Murchison, and many others of similar experience and sagacity, freely admit the obscurity of this subject, and the difficulty of determining the influence of local agencies in the production of typhoid fever as compared with causes of a general character, over which we have no control, as in telluric or atmospheric conditions, involving thermometric, hygrometric, and electric states and their influence, singly or combined.

As pertinent to this point, reference may here be made to an article in the MEDICAL AND SURGICAL REPORTER for January 1, 1881, entitled "The Limited Effects of Sanitation," from the pen of Dr. John Syer Bristowe, President of the Society of Medical Officers of Health, as follows: "If we look to the remarkable influence which simple variations of temperature and pecularities of season exert on the mortuary returns, in respect both of the number of deaths and the character of the fatal diseases, and compare therewith the comparatively small effect on the death-rate of even one of the most fatal of the zymotic diseases, or with the insignificant influence of deaths from enteric fever, diphtheria, pyæmia, puerperal fever, and other affections over which sanitary science is supposed to exert a specially valuable influence, we can scarcely avoid, I think, seeing that, on similar grounds, the deaths saved directly by the sanitary labors on which we are engaged must, under any circumstances, be so few annually as to produce no distinct and unmistakable effect on the mortuary rates." This sincere and ingenuous avowal of opinion by one so distinguished as an authority in medical science is well entitled to the serious consideration of the enthusiasts who never tire in predicting the suppression of the diseases in question so soon as sewer-gas and filth are banished from the houses and premises of our citizens; whilst it is a notorious fact that lavish expenditures of money, by public authority and by citizens, have for several years past been made in Philadelphia without any perceptibly important result as the consequence. In the paper of Prof. Hamilton it is distinctly stated that, during a certain period, the increased mortality in New York could not be found in the condition of the streets, for at that time they were unusually clean: nor can the unusually severe outbreak of diphtheria now prevailing in our own city be attributed to the current local agencies. If, indeed, the primary causes of typhoid fever, diphtheria, and scarlet fever in cities be due to the influence of sewer-gas and filth, then, in fact, our citizens can have little hope of an early exemption from these maladies. Yet, on this score, there is no occasion to despond. Fifty years ago typhoid fever was not common, but intermittent and bilious-remittent prevailed in the city, yet only to a moderate degree compared to the suburbs and the adjacent country. These are not regarded as special filth diseases, whilst typhoid fever, diphtheria, and scarlet fever are by many so considered. At the remote period alluded to some attention was given to cleansing the streets, but there were no such exertions and expenditure of money, even in proportion to the size and population of the city, as are now customary; and as to inspection of dwellings, out-houses, wells, and the premises, it was almost unknown. That constant attention, by the authorities and citizens, should be given to maintain cleanliness in every place, and by all possible means, no one will deny; but, when all this has been done, what comparison can there be between the condition of a large city and any well-managed rural section in this point of view? Under the most favorable circumstances the sources of filth contamination in a city are as ten to one compared with the country; and this is manifest in the single fact, that the ground on which a city rests is, of necessity, well nigh riddled with wells for the convenience of families.

During the past ten or twelve years, the average weekly deaths from typhoid fever in this city have been from seven to eight, as above stated. If this disease had prevailed here, in frequency of attacks and fatality, in proportion to population, as the writer has known it to do in the country, forty to fifty deaths per week would have probably occurred. The same feeling of gratification that the late Dr. Jos. Parrish manifested and expressed when informing his class of the slight mortality from bilious fever in this city, as compared with the country, has been experienced by the writer in regard to typhoid fever in this city, as compared with what is seen from time to time in the country. The city of Philadelphia, as shown by the reports of the Board of Health, still maintains its title as one of the healthiest of the large cities of the world, nor is it good policy, under any circumstances, to do or say aught to inspire citizens with dread, and induce strangers, who may have occasion to visit us on business or otherwise, to regard Philadelphia as unhealthy, and therefore to be avoided.

[After the reading of the preceding paper:]

Col. Waring, who was present by invitation, was called upon by the chair to discuss the subject considered in the paper. He remarked that he desired to say one word for sanitary engineers with regard to the cause of typhoid fever, and this was that they had long since abandoned the opinion that sewer-gas was the cause of the disease. He thought it very important that filth

should be gotten out of the way, so as not to become a source of contamination to the water-supply. The literature of the subject seems to prove that typhoid fever in the country is due to drinking-water which has become contaminated. Cleanliness is safe and important, and efforts should be always made to secure it.

Dr. Hamilton said the quality of the drinking water remained essentially the same from year to year, whether typhoid fever prevailed extensively or was absent; so, also, in regard to vegetables and roots for family use. These are laid up every season, generally in trenches, covered with clean straw, and earthed over. On consulting several German monographs, Dr. H. had found the experience of the writers to conform with his own, that males suffered more from typhoid fever than females, and that from the fifteenth to the twenty-first year, the period of rapid growth, the danger, in case of an attack, was augmented.

Dr. J. M. Keating said that the elaborate paper we have just heard read might mislead some of its hearers into the supposition that *sewer gas* was considered a cause of typhoid fever. It may be well for us at once to dispel such an idea, and to couple with the paper just heard the emphatic endorsement of this body that *sewer gas*, as far as *typhoid fever* is concerned, is simply a VEHICLE by which the specific germ may enter the system of one prepared to nourish and develop it. There is no need to debate the question as to the greater importance of infected drinking-water: the incidents in the paper just heard, the greater prevalence of the disease in the rural districts where privy wells contaminate the drinking water, and the remarkable statistics of the New England country towns where the wells for sewerage and drinking purposes are under one roof, the fact that these localized epidemics are usually traceable to one primary case entering the village, are all sufficient evidence in themselves.

But though *sewer-gas* may not always carry the germs of typhoid fever, it has a poison of its own equally terrible in its consequences.

The modern improvements in house-drainage—indescribable comforts where properly constructed—are unfortunately too often the means of carrying the most deadly vapors directly into the abodes of luxury and wealth. At those hours when depressing influences have disarmed their victim, these noxious gases steal insidiously into his chamber, and do such violence as to render fatal by the most serious complications such diseases as are otherwise mild and harmless in themselves. Whether the concentrated miasm from palludial emanations or the outpouring gases from a sewer through siphoned traps, the unconscious sleeper breathes poisons as potent in their devitalizing effects as if he inhaled the germs of typhoid fever in their purity, or drank water impregnated with the excreta of typhoid cases. *Sewer-gas* is not necessarily a *cause* of typhoid fever, except when it carries its germ, but it is the most potent cause of the "typhoid state;" and there is a decided choice between these two evils—in favor of the former.

Early manhood carries with it a decided predisposition to typhoid fever. I have recently read with great interest an article in the *Nineteenth Century*, by Gen. Sir Frederick Roberts, on the recruits for foreign service in the English army, in which statistics were given to show that the large mortality from typhoid fever, in young recruits, rendered advisable the consideration as to whether it was not better for foreign service to take only such as had recruited early and survived this period, or to recruit only from those who had passed the age when the disease was most liable.

The typhoid germ is certainly more deadly if its vehicle be poisonous also; and it becomes our duty to add an earnest appeal to that which seeks by proper legislation to give us pure air for our children to breathe, and pure, uncontaminated water to drink.

Dr. J. G. Richardson remarked: I am well aware that the evening is too far advanced for me to attempt to discuss the important subject of Dr. Hamilton's paper, and I will therefore content myself with suggesting how two of Dr. H.'s illustrative cases may be very plausibly explained in accordance with the modern views respecting the danger to human health from impure drinking-water, foul sewer-air, and other grave sanitary errors.

Dr. Hamilton mentioned the case of the mother of a family who contracted typhoid fever away from home, and brought it back to her farm-house, where several members of the family seemed to take the disease from her; and argued that this circumstance proved that the infection of typhoid fever was not carried by sewer gas, because in this instance no sewers existed near the place. The true explanation of this seeming anomaly is, I believe, however, that whilst typhoid fever is sometimes carried by sewer-gas, it is more frequently conveyed in drinking-water contaminated by sewage, and that in this case the diarrhœal discharges of the mother were emptied near enough to the family well to soak through the ground into it, and, by polluting the drinking fluid, transmit the disease to other members of the household.

That some such mode of propagation may have existed is shown by a remarkable fact related by Prof. Flint, upon whom Dr. Hamilton relies as an authority against the dangers from sewer-gas, which are briefly as follows: A young man traveling by stage-coach in Vermont was taken sick, and left at a wayside inn in a small village. His complaint soon proved to be typhoid fever, and in a short time the disease appeared in each of the neighboring houses, the inhabitants of which used water from the tavern-keeper's well, *except one*, whose residents had quarrelled with the landlord, and consequently went elsewhere for their water-supply.

In the light of recent sanitary science, then, it appears that many people, many whole families, in rural districts, suffer from typhoid fever because they drink well water, polluted by direct mixture with fecal matter containing the specific fever germ, which soaks through the soil, often directly, into the well; whilst in cities a few persons, relatively, are attacked with typhoid fever, and many with diphtheria, etc., by inhaling poisoned sewer-air from stationary wash-stands and other modern conveniences. There are probably one hundred thousand villages and farm-houses in the United States to-day, where the cess-pools

feed the wells in this abominable manner, and such wells surely in their turn *feed* from time to time the church-yards in their neighborhood.

Again, Dr. Hamilton inquires, why is it, if sewer-gas is the cause of both typhoid fever and diphtheria, we now have, according to late reports of the Board of Health, only two or three deaths per week from the former disease, and thirty or forty from the latter? The obvious answer is that sewer-gas can only convey the *materies morbi* (the disease germ as I believe it is) with which it is freighted, and at the present time sewer-air in but few houses is contaminated with typhoid-fever poison, whilst in many it is loaded with diphtheria germs—precisely as drinking-water might contain both lead and copper in varying proportions, and accordingly as one or the other temporarily predominated, would persons who imbibed the fluid be liable to exhibit the symptoms of lead palsy or of copper poisoning.

Although I am not yet prepared to endorse the *dictum* of a late English hygienist, who declares "For every death from typhoid fever, somebody" (meaning some plumber, architect, or sanitary engineer) "ought to be *hung*," I do hope and believe that the time is not far distant when at least the charge of criminal negligence will lie at the door of every physician who, after being warned by the occurrence of one case of typhoid fever, diphtheria, etc., in a dwelling, does not immediately endeavor to guard the other residents of that house against the germs (or poison, if you choose) of infectious disease, by a diligent search for the sanitary defects in the water or milk supply, or in the disposal of sewage, which will almost certainly be discovered.

I have spoken of the germs of typhoid, diphtheria, etc., entering sleeping apartments from stationary wash stands in spite of traps, and in this connection I desire to show the Fellows of the College just how, as I conceive, these poisons may penetrate through such mechanical contrivances. Here I exhibit the ball of an ordinary Bower trap, covered with a coat of fungous growth, and here a portion of the slimy coating from one of the pipes of similar structure. Since these form a continuous lining quite through the trap, it is obvious, I think, that it may have crept up from the sewer itself, thus forming on the inner or house side of the trap a new starting point for the evolution of disease germs, against which, of course, the most perfect water-seal is absolutely no protection. This, I believe, is what really occurs in a multitude of instances, as I pointed out in a paper entitled "Why Sewer Traps are Unreliable" in the *Medical News* for September 2, 1882. The true remedy for the dangers of sewer-gas poisoning is, therefore, I think, as explained in that article, to be found in sterilizing the whole interior of our traps and waste-pipes with slow currents or drippings of powerful disinfectants, such as the salts of iron, zinc, mercury, or arsenic, "just as the shores of the Dead Sea and the banks of certain small streams are sterilized, by mineral ingredients or poisonous metallic substances, from manufacturing refuse, with which their waters are mingled."

EDITORIAL DEPARTMENT.

PERISCOPE.

Pulmonary Syphilis.*

The *Med. Press*, March 7, 1883, thus writes: There are few diseases whose pernicious influences on the system are so universal and so diversified as syphilis. Its poison seems peculiarly inimical to fibrous structure, and consequently to the minute blood-vessels, and to the organs in which they ramify to the greatest extent. Certain recent works on this important subject have revived the interest in it which all physicians must feel; for example, the compendious memoir of Pancritius, the carefully-studied thesis of Carlier, and a series of communications made during the past five years to the Société Anatomique of Paris. These works examine exclusively the question of pulmonary syphilis in the adult. Pulmonary syphilis in the new-born is a subject totally *sui generis*, whose features have been grasped scientifically since the time of Cruveilhier, by such authorities as Baron, Billard, Husson, Virchow, Cornil and Ranvier, etc. All these authorities have reasonably concluded that the phenomena of infantile pulmonary syphilis are so characteristic that it is impossible to confound them with those of any other affection. But if on this subject, from the point of view of pathological anatomy, so much precision has been attained to, it is quite otherwise with the specific pulmonary affection of the adult. Not a few physicians have hesitated to acknowledge their existence, while some have even totally denied them. Paré, Baglivi, and Astruc conceded that syphilis might originate destructive alterations of lung tissue, to which phthisis would form the *rôle* of a *secondary diathesis*, an influence, they also maintained, common to blenorrhagia. In short, the specific nature of pulmonary syphilis has been but very tardily accepted by the profession. Morgagni was an avowed partisan of the pulmonary syphilitic doctrine, but sufficiently authentic proofs thereof failed him.

At the commencement of the present century, Lammonier affirmed the existence of a phthisis of a syphilitic nature, and curable by the ordinary anti-syphilitic treatment. During the period of thirty years, commencing with Lænnec in 1804, and which may be regarded as the Renaissance of pathological anatomy, syphilis was almost forgotten in this connection. Perhaps this was in great measure due to the influence of John Hun-

ter, who scarcely believed in any visceral complications of syphilis. It was not until 1826 that Lænnec and Andral described and recognized syphilitic phthisis. Van der Kolk maintained that syphilitic subjects sometimes died presenting "phthisical appearances, with ulceration of the lungs, situated most frequently in the middle lobe, *but without tubercle.*" To Ricord is mainly due the recognition of syphilitic phthisis as one of the most certain and incontestable sequences of venereal infection; and Gilbert, Fournier, and especially Lancereaux, have substantiated by pathological anatomy, not only the possibility, but even the frequency of syphilis of the lung. The microscope has afforded in this investigation less assistance than one would, at first thought, be led to anticipate. The structural changes of syphilitic lung appeared only as common inflammatory changes, and no light was thrown on the original specific nature of the process. Hence, consideration of the larger lesions, and the history of the special case, furnished the only reliable elements of diagnosis. In the lungs, as elsewhere, the histological changes initiated by the syphilitic virus consist of nodes and scleroses. Most frequently the scleroses are superficial; they are pleuro-pulmonary, and appear as elongated depressions, more or less deep, and more or less bound down with bands. These depressions are, however, seen in the most characteristic form in the liver and spleen. From the surface of the lung, these fibrous bands penetrate the parenchyma of the organ, and radiate towards the hilus, as the septa of the testicle towards the body of Highmore. The *gummata*, on the contrary, are almost invariably situated in the deeper structure of the lung, and especially around the greater bronchi. Not frequently numerous, they have a firm consistence, are of a yellowish color, and of a peculiar dryness, which distinguishes them from the great bulk of other morbid products. Their size is variable, but they seldom exceed that of a hen's egg. As a rule, they co-exist with sclerous induration of the parenchyma, and are encysted in fibrous rings or spheres. The large bronchial tubes are frequently ulcerated, and passage is thus sometimes afforded to the caseous substances of which the gummata are composed. In view of all the circumstances, it appears that syphilitic gummata of the lung manifest a preference for the region of the hilus, from which they spread from within outwards. toward the deeper structure of the parenchyma. It may, indeed, be questioned if this anatomo-pathological variety of gummatous degeneration may not be regarded as a kind of peribronchic mediastinitis, seeing that, in a state of disease, pulmonary lobules of the fifth and sixth division may be recognized by the naked eye, and only of about the third and fourth in health.

From the clinical point of view, certain important deductions are to be drawn from these considerations. The great difficulty of diagnosis consists in differentiating between lesions which are syphilitic, and those which are tubercular. These lesions are equally distinctive, the physical signs which accompany them are identical, the phenomena of genuine consumption are present—such as broncho-pneumonia, bronchial catarrh, and hæmoptysis—equal in quality and quantity, only the topographical distribution of the gummata and tubercle is different; for while the former show a preference for the region of the hilus, the latter does for the apex. It is asserted that in pulmonary syphilis hæmoptysis is more rare and less abundant than in phthisis; but this observation is not borne out by reliable experience. Again, in how many instances do patients die of phthisis who have never spat blood?

It is thus evident that in the presence of a destructive centre in the middle portion of the lung there is some excuse for uncertainty or timidity of diagnosis. But if, as almost invariably happens, that in the event of death from syphilitic phthisis, there exist specific lesions in the other viscera, especially in the kidney, in the bones, or on the surface of the body—if these lesions are manifestly recognizable as characteristic of syphilis, if the seat of the pulmonary destruction is other than what obtains in ordinary phthisis, there is almost incontestable proof that the initial stage has been syphilitic. In view of the signal amenability of syphilitic affections to proper treatment, it is obvious that the diagnosis of syphilitic phthisis is of the first importance; and to correct diagnosis may fairly be attributed the rarity of autopsies revealing visceral syphilitic lesions, and the *hiatus* that thus exists in visceral syphilography.

Dyspepsia.

In a very practical address on this subject before the West London Medico-Chirurgical Society (*British Medical Journal*, March 24, 1883), Dr. Hood drew especial attention to those cases of gastric lesion in which dyspepsia played an important part as a symptom, and suggested that, in many cases of so-called simple dyspepsia, there was a definite lesion. The carefully-compiled category of symptoms incidental to ulceration of the stomach suggested that the diagnosis was easy, the very opposite of that being clinically the case. In the early part of 1879, he had placed under his charge a gentleman, aged 40, who had spent many years in the colonies. For eight years he had been a sufferer from dyspepsia, the commencement of which he had attributed to irregularities of diet. He first felt pain over the region of the stomach. Soon he suffered from attacks of vomiting and acid water-brash. Failing to obtain relief, he came to England. When first seen, eighteen months after his arrival, his symptoms were much intensified. Blood was found in his vomit. Presently the stomach became intensely irritable, the patient being supported entirely by means of nutrient enemata. Slowly the grave symptoms subsided, and he regained flesh. In six weeks he went about as usual. Three weeks afterwards, while sitting, on moving suddenly he felt a pain in the stomach, and died within twelve hours. The *post-mortem* examination showed perforation of the stomach at its anterior base. A small healed ulcer, at its base no thicker than tissue-paper, had given way, and the contents of the stomach had been poured into the peritoneal cavity. The stomach, in the immediate vicinity of the pyloric orifice, was honeycombed with the remains of the cicatrices of old ulcers, that presented small depressions corresponding to the position of gastric follicles.

Another patient, whose symptoms bore some resemblance to those of the preceding case, was under his care at the same time. This was a German gentleman, aged 40, who had suffered from painful digestion about fourteen years. In the early days of his illness he had felt pain after taking food. Later, he began to suffer from occasional vomiting. When first seen he was rather emaciated. The stomach usually emptied itself at the end of the day. On several occasions a coffee-colored matter had been ejected, and altered blood was sometimes mingled with the vomit. The stomach descended below its natural limit, and a small lump could be felt in the epigastric region, indicating obstructive disease of the pylorus. Under treatment, flesh was gained, the vomiting ceased, and the stomach recovered its natural size: but the lump remained. Subsequently he went to his business abroad, when the symptoms returned, and he died of exhaustion. Ulceration of the stomach was of very frequent occurrence, but the symptoms of ulceration varied very greatly. Although hæmorrhage was an important symptom, it was not judicious to wait for the presence of blood before inferring the existence of ulceration. In treating assumed ulcer, the patient must be kept in a recumbent posture. Where there was much enlargement of the stomach, Dr. Hood generally used a counter-irritant, and he freely prescribed the various preparations of opium in those cases where there was no doubt that the dyspepsia did not arise from hepatic engorgement; it not only stimulated the bowels, but also made the patient less intolerant of restraint. Where the presence of ulceration was well marked, such treatment should be resorted to as would be insisted on if the ulcer occurred on the surface of the body. In the case of a lady, who at the time of first seeing him was afraid to take the simplest food, and in whom there was found in the epigastric region a spot very tender on pressure, he ordered her to bed, recommended rich milk and light broth as diet, and prescribed six drops of laudanum every four hours. Iodine was suggested as a counter-irritant. A simple soap-and-water enema was to be used every other day.

From the first, the patient's progress was satisfactory. She left her bed in fourteen days, and recently he received a letter stating that she was quite well.

Dr. Daniel said that three or four years ago he attended a gentleman who had acted as a special artist for a newspaper during the Franco-German war. He was a fine muscular man, but had contracted indigestion. He gave calomel and colocynth, but the symptoms increased, and the patient eventually died of exhaustion.

Dr. Schacht suggested that in addition to rest, an enema every other day was important. Constipation was an awkward symptom, and the enema, by relieving the stomach, allowed the opium to do its work.

Dr. Campbell Pope said that he overcame constipation with bismuth in conjunction with belladonna.

Dr. Orton said that he knew of a practitioner who had symptoms of ulceration for thirty-five years, and who at last collapsed from vomiting. The *post-mortem* examination revealed ulcers in all stages.

Dr. Hood, in reply, suggested that marked dyspepsia required the most careful examination, for early diagnosis was very difficult. The ulcers were really boils of the stomach, resulting in choked glands. He was strongly of opinion that dyspepsia demanded vigorous treatment.

Pathology of Bright's Disease.

More than once the opinion has been promulgated that the pathogenesis of the different forms of diffuse nephritis are in so far all alike, as the inflammatory process always starts from the parenchyma, viz., the epithelium of the glomeruli and of the uriniferous tubes. To decide the question, Dr. Aufrecht, in Magdeburg, has instituted a number of experiments. First he ligated one ureter. In this series of experiments* he was able to demonstrate on kidneys, the ureter of which had for some time been ligated, that in the beginning the epithelium alone was affected, by becoming granularly opaque, and by throwing off fibrinous casts. During the first few days, the interstitial tissue continued intact; on the fourth day the capsules of Malpighi were commencing to enlarge, which the interstitial spaces began to do at the same time, nuclear swelling of the local cellular tissue being in either case the cause of the enlargement. The walls of the vessels also became thicker, and mainly in consequence of the swelling of the cells of the adventitia and of the muscular fibres. The epithelium of the uriniferous tubes shows synchronously another alteration; it changes to small pale cells with plainly visible nucleus, but it is not destroyed. While tht lumina of the tubules become narrower, the interstitial spaces enlarge continuously in consequence of nuclear swelling and augmentation of cells.

In such a manner A. succeeded in bringing about a morbid process, beginning with affection of the parenchyma, followed by inflammation of the interstitial tissue. The cause is undoubtedly the chemical change in the epithelium, which induces the alteration of the parenchyma. While he was so fortunate as to produce a true interstitial nephritis with preceding disease of the epithelium, his experiments would not as yet have been decisive, had he not been able to show as final consequence a cirrhotic or atrophic kidney in which the process began with a lesion of the epithelium. And A. really has succeeded in producing by the subcutaneous injection of small quantities of cantharidin (0.0025 pro dosi) suspended in oil, all the different forms of nephritis, viz: the so-called acute parenchymatous, the diffuse parenchymatous, interstitial, and the cirrhotic or atrophic kidney, the latter being characterized especially by irregular, deep contractions (or drawn-downwards) of the surface of the organ; these contractions (similar as in cirrhotic liver) were varying in size, and between them the less affected tissue of the kidney appeared prominent. These elevations were sometimes not larger than a pin's head.

All these alterations had the same pathogenic cause, with the only difference that the most pro-

* Pathologische Mitth., 1 Heft., p. 11, and Cbl., 1878, No. 19, and Die diffuse Nephritis, Berlin, 1882.

gressed stage—the cirrhotic kidney—is in direct relation to the most frequent application of the drug employed. Generally the most vigorous animals withstood the largest number of injections; but the accident favored A. in as far as one of the most vigorous female rabbits, which had just concluded its lactation, died already after one injection of the quantity of cantharidin mentioned above, of acute parenchyamatous nephritis. Mostly strong animals did not succumb until the kidney-lesion, after a number of injections, had progressed to the later stages; and it was usually in weak and small animals only that the beginning lesion could be studied and followed up without bringing about the death of the animal in a different manner. First, the capsular epithelium began to swell, and the glomerulus was thereby pushed away from the wall. The epithelium of the tubules becomes turbid, swells and contains brilliant formations all over the cell; if on the basis, then the cell is pushed away from the membrana propria. Out of these brilliant formations (bright, shiny) the fibrinous tube-casts are formed—the same process as noted after ligation of the ureter of one kidney. But that this was not only a disturbed nutrition of the epithelium, caused by the cantharidin, was proven by the following parenchymatous intestitial nephritis, where the epithelium of the tortuous tubules was changed in a higher degree than than of the straight ones. Nowhere was wanting in the uriniferous tubes an epithelial cell. The epithelium of the capsular wall and of the glomerulus was not so much swollen in this stage, but often partly destroyed. The vascular theory of Cohnheim cannot be considered as wrong, after this, because the capillary vessels mostly were found to contain very little blood, the swelling mentioned of the epithelium narrowing the caliber of the vessels and preventing the passage of the blood, and white corpuscles were never noted to extravasate.

The scientific explanation for the process described is, that in consequence of an affinity, to us unknown, of the cantharidin to the epithelium of the kidney, a chemical change takes place in the latter which later affects the interstitial tissue, the last consequence of the morbid process being the cirrhotic kidney.

A Case of Acute Yellow Atrophy of the Liver.

Dr. D. van Haren Noman, in Virchow's Archiv. Bd. xci. H. 2 p. 334, describes a case of acute yellow atrophy of the liver. C. R., unmarried, seamstress, came on the 11th of March, complaining of a feeling of malaise, some epigastric pain, headache, coated tongue and failing appetite—in short, the symptoms of an ordinary gastric catarrh. Two days later the patient was decidedly jaundiced, but the previous symptoms had ameliorated. Physical examination revealed nothing unusual, and especially was it noted that the liver dullness was normal. The urine, although bile-stained, contained neither albumen nor any morphological products. The symptoms were those of catarrhal jaundice. On the 25th, the aggravated nature of the case became apparent. The patient at first became somnolent, and this deepened into coma, from which she could not be aroused. She lay with half-opened eyes, pupils reacted feebly, and now and then short tetanic spasm of the arms, less frequently of the face and limbs, were apparent. The urine was dark-colored, and contained besides biliary coloring matter and salts, albumen and leucen styrosin. The height of liver dullness amounted to 7 cm ($2\frac{3}{4}''$) in the mammillary line, and reached 2 cm ($\frac{3}{4}''$) to the left of the linea alba. The temperature was 36 C. (96.8 F.) pulse 57, respiration 16. The symptoms continued with some fluctuations in temperature until the morning of the 28th, when death occurred, seventeen days after the beginning of the attack;

At the autopsy, $10\frac{1}{2}$ hours after death, the following conditions of the liver were noted: Breadth of the right lobe, 145 mm. ($5\frac{3}{4}''$); of the left, 92 mm. ($3\frac{5}{8}''$); the heighth of the right lobe, 146 mm. ($5\frac{3}{4}''$); of the left, 89 mm. ($3\frac{1}{2}''$). The maximum thickness of right lobe was 61 mm. ($2\frac{3}{8}''$). The capsule was smooth and shining. On the upper side were seen here and there small and larger yellow spots, which were more numerous and larger on the lower part, the rest of the surface being reddish-brown. Upon section, these yellow spots were noticed through the entire parenchyma. The boundaries between the red and yellow parts were not always sharply defined. The consistence of the liver was soft, and in shape it was very flat, with thin, sharp edges. Microscopical examination of the yellow parts revealed large, granular, cloudy cells, only in some cells small fat kernels were to be seen. There were some strongly refracting bodies, which stained deeply in the borax-carmine. The interstitial intra-lobular connective tissue was broadened and composed of a fine fibred, finely punctate tissue. In the places where the red and yellow substances joined, cellular remains were found, in which sometimes no nuclei and again remains of nuclei appeared. There was a finely punctate connective tissue stroma, in which spaces and alveoli were evident. In some of the red tissue parts, the section resembled an angioma, being composed of spaces filled with white and red blood-corpuscles, and containing small residues of liver cells, either with or without nuclei. In the red spots corresponding to the inter-lobular connective tissue were seen ramifying arteries and veins, and in the tissues rare cylindrical cell masses, and small-celled infiltration, especially near the vessels. He thinks the red atrophy is a later stage of the yellow, and not that both are the results of two different processes.

Face Presentation.

In the *Brit. Med. Jour.*, Dr. Strachan, of Sunderland, writes: "A. W., aged twenty-two, primipara, at full period, was first seen after slight dilatation of os had taken place, the face having barely engaged the pelvis, although the membranes were ruptured, and the liquor amnii was escaping. The finger touched the right malar bone and orbit. The pains were frequent but not strong, and the patient was hysterical. I gave opium, and left her, and was sent for twelve hours later, when the os was fully dilated, and the face, which had now descended to but the middle plane of pelvis, was found presenting, in the first position, the right oblique diameter,

with chin backwards towards right sacro-iliac-synchondrosis. As the forehead seemed decidedly to take precedence, I tried gently to make the head rotate on its transverse axis into the first cranial position, with the occiput towards the left ilio-pectineal eminence, but did not succeed. This was the method recommended by the late Dr. J. Clark, but is now abandoned. Next, introducing my finger into the mouth, I endeavored to bring down the chin—the proper analogue of the occiput—at the same time assisting the natural rotation into the fourth facial position—the left oblique diameter, with the chin forwards. But all my efforts seemed fruitless to move the head in any way, especially as the pains were weak. So, after waiting two or three hours longer to see what course nature intended to adopt, and as the fronto-mental diameter still remained impacted in the same position, I gave chloroform, and applied the long forceps with double curve; the upper blade, which had to be introduced first, being rather difficult of introduction between the prominences of the face and the maternal parts, so as to avoid injuring either. The long straight forceps are recommended in these cases with the view of better assisting rotation, but in this instance the double-curved ones answered remarkably well, as under rather powerful traction, accompanied by a gentle twist in the desired direction, rotation took place into the fourth position, and the face was born chin forwards, the hollow of the forceps pointing backwards. Had rotation not taken place, the case would most likely have ended in craniotomy. The child was born alive, and although slightly disfigured at the time, with the caput succedaneum over the right cheek and orbit, which were both considerably swollen, it has done well; the mother has also made a good recovery."

The Essential Nature of Diseases of the Heart.

The *Med. Times and Gaz.*, March 17, 1883, says: M. Martin, in an elaborate paper on the pathogeny of heart diseases, in the *Revue de Médecine* for February, 1883, divides all heart affections into two groups, viz., those of valvular origin, and those of vascular origin. These groups resemble each other in that each has an acute and a chronic stage, the latter being almost always a consequence of the former; in both groups, too, the original lesion—whether it has a chief valvular focus, or whether it depends upon a number of minute vascular foci—may be the starting-point of a twofold inflammatory process, partly muscular and partly interstitial. The former process is always compensatory. As regards the latter, whether the process has commenced in one of the valves and spread thence to the muscular wall of the heart, or whether it has commenced as a periarterial lesion, is a matter of little moment, for the ultimate result is the same, viz., diminution of the power of the heart, and finally asystolism. But, granting that no hard and fast line can be drawn between the two groups, or even that ultimately it should be shown that all lesions of the heart have their origin in some vascular change, still M. Martin thinks that his proposed classification might be retained with advantage, as corresponding with unquestionable differences in the etiology and mode of evolution of these changes.

Practical Applications of Koch's Discovery.

From the *British Medical Journal*, March 3, 1883, we learn that Dr. Gairdner, of Glasgow, is of opinion that the practical applications of Koch's discovery are to be looked for chiefly in two directions. First, in that of prevention. "This discovery," he remarked at the Glasgow Medical Society, "imposed on medical men the necessity of looking to the observance of the most scrupulous cleanliness. They must have clean hospitals, clean wards and walls, clean rooms and floors. More than ever must this now be the order of the day. They must keep in view that no man was safe unless he got everything round him as clean and as pure as could possibly be managed. Another possible direction in which what they had learned might be applied (though the question was so obscure that probably even Koch would not push it), was in making experiments to ascertain whether the tubercle-bacillus could be cultivated into a milder form. Were this possible, the question might arise whether, as in the case of small-pox and anthrax, the milder form might be utilized as a prophylactic against the more virulent form. In the matter of cure, too, attempts must be made to apply the discovery. For the next year or two, there would be a run on the indiscriminate use of antiseptics in the treatment of phthisis; and probably this would result in disappointment. But this ought not to discourage them, as they might feel sure that, whatever residuum of utility there existed in the antiseptic treatment of phthisis, would eventually be made clear."

Chronic Diphtheria.

In the *Berlin Klin. Woch.*, Dr. Wall reviews twelve cases of chronic diphtheria. He says the course of the disease is different in the pharynx; the membranes are not removed there so soon as from the tonsils, and there is a constant source of contagion. If the secretion is profuse, the disease cannot be overlooked, but that is not always the case; he had twelve cases where his rhinoscopic examination revealed the nature of the discomfort. Large ulcers and destructions were detected. Impaired hearing and pain in the eyes have caused an examination. There was always a pain in the eye, generally on one side, spreading over the head, especially when true ulcer was at the basis of the cranium. The ulceration resisted sometimes every treatment, and came down to the soft palate and even the œsophagus. Local complaints became very severe sometimes, with a general debility without fever. The ulcers were similar in character to those of syphilis or tuberculosis. Dr. Wall says diphtheria gets its most destructive character in cases where hereditary syphilis, scrofulosis, or tuberculosis could be traced.

The treatment is tedious; a solution of carbolic acid, five to eight per cent, powdered iodoform, and boric acid, are the best remedies, assisted by the frequent use of the nasal douche. These strong solutions must be used strictly at the place; weaker solutions might be used in the atomizer. The anti-syphilitic treatment in doubtful cases must always be postponed.

The Cure of Strabismus by Glasses.

The *Practitioner*, March, 1883, says that M. Boucheron (*Annales d' Oculistique*, December, 1882), recommends the use of corrective glasses in cases of convergent strabismus, an affection that is usually associated with hypermetropia or long-sightedness. The employment of appropriate corrective glasses must, however, be preceded, as Green recommended long ago, by the instillation of atropine to paralyze the accommodation, and the effect of the atropine should be continued for two or three months, if the case is seen at the outset; or for ten or twelve months if the affection has lasted some time. In fact, the employment of the atropine should be continued as long as there is any tendency to strabismus. The glasses ordered should be of sufficient strength to neutralize completely the hypermetropia present. When no further tendency to strabismus is observed, the atropine may be discontinued, but the glasses must still be employed. The strength of the atropine solution he uses is one part of the sulphate to 300 of water. If atropine produces any irritation, he uses duboisine. When strabismus is fairly established, he resorts to tenotomy, but even after this is performed, he instils atropine.

Hernia Reduced by Electricity.

The *Practitioner*, for March, 1883, says that Dr. Suprunenko mentions an experience of interest in the *Wratsch* (No. 17, 1882). A right inguinal hernia, strangulated for three hours, had resisted half an hour's taxis. A moderately strong induction current was then tried; the positive electrode being pressed against the tumor, while the negative was applied first against the lumbar vertebræ, afterwards over the umbilicus. The hernia at once began to diminish, and in less than two minutes disappeared entirely. Another case is given in the same journal (No. 40, 1882). An old man of eighty had suffered from a strangulated hernia for twelve hours. Persistent taxis had altogether failed, though Dr. Pergamin kept it up for over two hours. The induction current was then used for fifteen minutes, the pole being applied to various parts of the tumor, but this also failed. The current being still maintained, he again attempted manipulation, and in two minutes the bowel returned into the abdomen with a gurgling noise. (*Centralb. f. Chirurgie*, Dec. 9, 1882.)

Reviews and Book Notices.

NOTES ON CURRENT LITERATURE.

——*Harper's Monthly*, Harper & Brothers, New York, for May, is before us. We cannot say unusually attractive, for *Harper* is always first of the monthlies. This number has an exceedingly attractive description of San Francisco, finely illustrated. The second of the series of historical articles, "The Treaty of Peace and Independence," is extremely interesting, with well-executed portraits of some notable men of those times. "The National Academy of the Arts of Design," by Benson J. Lossing, gives a vivid description of the trials of New York artists in establishing their National Academy, telling how much they owe to S. F. B. Morse, who is seldom associated with the Arts of Design in the mind of the general public. The short sketches of the artists, Durand, Ebers, and Cummings, add much to its interest. The sketch of Anthony Trollope, with its fine portrait, the article on the Brooklyn Bridge, and the Middle Colonies before the Revolution, are all of much interest. The short stories are good, as usual, and John F. Weir's Art Study at Home and Abroad should be carefully read by all art students. Not the least valuable of its contents is the Editor's Easy Chair and Literary Record.

——*The Agriculturist*, much improved artistically, and in many other respects, is a necessity for the farmer's family, and its price puts it within the reach of those of the most moderate means. Price $1.50 a year.

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——*Harper's Weekly*, which stands first of all illustrated papers, has become a necessity to every intelligent family. The illustrations, by the best artists, are unequalled by those of any other paper in the country. Price, $4.00 a year.

——We would recommend as religious newspapers, the *Independent;* the *Evangelist*, of New York; the *Presbyterian Banner*, of Pittsburgh; *Christian Advocate*, of New York; *Zion's Herald*, of Boston, and the *Presbyterian*, of Philadelphia.

——Of family newspapers, the *Germantown Telegraph* is unsurpassed, and in many respects, the *Vermont Journal*, published in Windsor, Vt., is equally good. They should be in every family of the country. Full of interest to old and young, and free from everything the youngest member of the household might not read, they are the model newspapers of the day.

——For lively and interesting social news and talk, *Progress*, by Forney, is one of the most charming of weeklies. Other regular and valuable exchanges are the *Trenton Gazette*, and *Cincinnati Gazette and Commercial.*

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THE EFFECT OF SALICYLATE OF SODIUM ON THE HEART.

The question, what effect preparations of salicylic acid have on the heart, is still not solved; experiments instituted to decide it having given contradictory results. According to some, the systolic action of the heart is strengthened; according to others, weakened. We only need to refer to the investigations of Bartels, Welyki, Bochefontaine, Köhler, Danilewski, Oltremare, Cattani, Chorone and Petrucci, and to the chapter of Liebermeister* in V. Ziemssen's Cyclopædia. The latter seems to be of the opinion that the effect is a depressing one, as he mentions at the end of his article that he does not prescribe salts of salicylic acid to patients with a weak heart.

Prof. Ed. Maragliano, Director of the Clinical Institute in Genoa, has recently taken up the subject again, and instituted in the interest of practical therapeutics a series of investigations, the results of which are rather interesting, and seem to decide the question finally.†

Three different kinds of experiments were made by the assistants of Maragliano under his direction.

The first concerned persons to whom the salicylate of sodium was given for several days consecutively. The curves of the pulse were noted with the sphygmograph during and after the use of the remedy every morning and evening.

The second series were individuals in whom the curves of the pulse were noted before and after a single doses of salicylate of sodium of about 75 grains (5 gramm).

The third series embraces persons in whom the arterial pressure was determined after Basch's method, before and after the administration of a single dose of the same remedy of about 75 grains.

These investigations gave the following results:

1. Salicylate of sodium, if administered for a number of days *in refracta dosi* causes a progressive increase of strength of the beat of the pulse, and the systolic line becomes progressively higher.

2. After a single large doses there was observed,

*Vol. I., pt. 2 and 3, page 74.

†Centrlbl. f. d. Med. Wiss., 48, 82. Page 865.

one hour after the administration of the remedy, an augmentation of force of the beats of the pulse, and the systolic line ascended higher; two to three hours later this effect had reached its maximum, and disappeared three to five hours later. The normal dicrotismus usually becomes accentuated. Sometimes the pulse becomes tricrotic.

3. The intra-arterial pressure increases about an hour after the administration of a single large doses, and becomes again normal about three hours later. The increase varies between ten and twenty mm. mercury.

This triple series of investigations seems to exclude, therefore, all thoughts regarding a possible depressing effect on the heart of the salicylate of sodium.

Certainly in all these investigations we may take for granted, as no mention is made to the contrary, that the individuals selected for these experiments did not suffer from any organic lesion of the heart. To judge from analogy, as, for instance, of the effect of digitalis on a heart the seat of some lesion, we would infer that the action of salicylic acid and its salt is always a stimulating one, and therefore the remedy contraindicated, whenever the impulse of the heart is already too powerful. It should not be administered in hypertrophy, nor in diseases like meningitis, where, in the beginning, at least, the heart is overacting, if anything. Whenever we wish to depress the circulation, salicylic acid is contra-indicated.

PROSTITUTION.

An evil, undoubtedly, yet it would seem in the light of human morality to be almost a necessary evil. Legislation has been from time immemorial impotent to eradicate it, while the older countries, as the result of centuries of experience, have given up the effort, and direct their legal enactments rather towards keeping it within bounds than to do away with it.

As its regulation, in our new country, constitutes a question of paramount importance, we may derive some valuable hints from the following, which we take from the *Medical Press*, March 21, 1883:

Dr. Moriz Kraus, Secundarartz of the Royal Krankenhause Wieden, Vienna, recently published an article in the *Wiener Medizinische Zeitung* on the above subject. From it we learn that some time between the years 1860 and 1870 a health-book was introduced as a check upon the spread of venereal diseases. Every registered prostitute possesses one. On the one hand, its possession is an indisputable legitimation, and on the other, a tolerably perfect means of control on the part of the authorities. The book contains (*a*) the nationality of the person to whom it refers, together with her signature; (*b*) residence; (*c*) name and residence of the examining physician; (*d*) the examiner's decision as to her state of health. Section 1 explains the intention of the health-book, which is to show proof of her having undergone regular and satisfactory medical examination. Section 7 fixes the remuneration of the examiner at 1s. at the examiner's own house, 2s. at the prostitute's. Section 8 provides that, if the prostitute on examination be found sound, the fact, together with the date of the examination, be entered in the book; but if, on the other hand, she be found to be suffering from any affection of the genital organs, or from any contagious disease, the examiner is empowered and required to detain the book. He is then to offer her her choice of the three Royal Krankenhäuser, and in case of her refusal to enter any of these, she is to be detained in a hospital by the police. Finally, she is to be sharply warned that, if she still pursues her calling, a penal prosecution will be the result. Treatment of such cases of venereal disease at the prostitute's residence is unconditionally forbidden. There is finally (*e*) a tabulated appendix, which contains the condition in which the possessor of the book was found, the date of the examination, and the signature of the medical examiner. By means of this the police commissary has proof at once that the bi-weekly examinations are regularly submitted to in accordance with section 2 of the health-book. Dr. Kraus proposes to render the book more complete, and less liable to abuse, by affixing to it the photograph of the prostitute to be renewed every three years, her age, and finally a small appendix of instructions on the nature and symptoms of the various maladies to which she is, by her calling, of necessity exposed. He cannot help mentioning an interesting circumstance, viz., that of late syphilis has occurred with the lowest possible frequency in the syphilis divisions of the three Krankenhäuser, and he attributes this *erfreuliche Thatsache* on the one hand to the health-book, and on the other to rigorous control on the part of the police.

ACCIDENTS PRODUCED BY LUMBRICI.

At a recent meeting of the Societé de Therapeutique, a member mentioned a case where a large number of round worms were found in the hepatic ducts, and several encysted in different parts of the liver.

The patient was a little girl, five years of age, who was brought to the hospital in an alarming

state, presenting choleriform symptoms. The physician learned that the child had passed three round worms, but did not pay any particular attention to the circumstance. The child succumbed three days later. At the autopsy a perforation of the stomach and general peritonitis was discovered; several lumbrici were found in the abdominal cavity. Very little attention is paid to lumbrici at Paris, as the water in common use is filtered, and worms are not often found. M. Archambault recalled a curious case which occurred in his practice. Three children, newly arrived in Paris, after partaking very freely of spiced cakes, were suddenly seized with alarming symptoms, one with convulsions, another with very painful colic, and the third with diarrhœa and vomiting. As the matters vomited contained several lumbrici, santonin (20 centigrammes) was given, and caused the expulsion of a large number of worms.

It is evident that in these cases, the alarming symptoms were induced by the violent reaction of the worms, irritated by the spiced food.

Many cases of arthralgia in children are due to the presence of lumbrici, and the pains disappear on the administration of santonin.

THE PROPER WAY TO USE IODOFORM.

When an antiseptic is employed in the treatment of wounds, the form or manner in which it is used is generally considered of little importance. M. Wiskemann, in a memoir in the *Berliner Klin. Wochenschrift*, mentions the recent experiments of Koch, which prove that carbolic acid dissolved in alcohol or oil has no deleterious action on the malignant charbon germs. He himself affirms that it is by no means a matter of indifference whether iodoform be applied over the surface of an ulceration, specific or otherwise, in form of crystals, as an amorphous powder, dissolved in ether, or as an unguent.

Iodoform acts, not only as a chemical combination, allowing the escape of iodine in a free state; it has also certain mechanical properties. When the surface of a wound is covered with a layer of iodoform in crystals, a certain degree of absorption of the liquids secreted takes place. These products of secretion, penetrating the interstices between the minute crystals of iodoform, soon lose the liquid form, and produce with them an impermeable crust. Under this crust, cicatrization soon occurs, without any retraction of the tissues. Iodoform should then, according to this author, be employed in the form of crystals when used as a dressing for wounds, or for ulcers, syphilitic or otherwise.

TREATMENT OF SYPHILIS COMPLICATED WITH MALARIA.

Malaria is not, perhaps, a frequent complication of syphilis in this country, but the treatment employed in such cases by Sigmund will, without any doubt, prove applicable in many cases occurring in our large cities, where the individuals are, to use a common expression, considerably run down.

The essentials of treatment are as follows: 1. Each morning rub into the groins or elsewhere, five grams of mercurial ointment. 2. At bed time the patient will take two pills, prepared according to the following prescription:

℞.	Ac. arsenious,	gr. ij.
	Ferri protochlorid,	gr. xv.
	Quiniæ sulph.	gr. xlv.
	Ext. gentianæ,	q. s.

Et. ft. pil. No. 100 of three grains each. Augment progressively the dose from two to six pills.

PARIS HEALTH REPORT.

M. Du Castel, at a recent séance of the Soc. Medicale des Hopitaux, presented his report on the reigning diseases during the last quarter of 1882.

The general mortality was rather elevated, as there occurred 4,247 deaths instead of 3,146, the average for the same quarter during the preceding ten years. About 21,000 patients were received into the hospitals.

Pneumonia and pleurisy were less frequently observed, and were of less gravity than usual, while pulmonary phthisis caused a large increase of mortality.

303 cases of diphtheria were received in the hospitals, with 188 deaths; in the city 432 deaths from the disease were noted.

There was a marked remission as regards typhoid fever. The cases were not so numerous, and were of less gravity; the mortality 13 per cent.

Notes and Comments.

Bacillus Mounting.

In the *Med. Press*, March 28, 1883, Dr. F. J. B. Quinlan thus describes what he considers the best method of preparing tubercular bacilli for the microscope. Take a button of phthisical expectoration in an advanced case—the first expectoration in the morning is the best; pour upon it a few drops of liquor potassæ, and work it with a glass rod until it becomes a homogeneous fluid. Put a drop of this fluid upon a microscopic cover-glass, from .006 to .004 thick, and allow it to dry. Now pass it lightly through the flame of a spirit-lamp, filter upon it a few drops of magenta aniline solution, and let it lie for twenty minutes. Place it in a mixture of one-third nitric acid and two-thirds of distilled water until it bleaches, which will take about five minutes, and wash it with water. Next drop upon it a little methyl blue solution, and let it stand for five minutes; and finally get rid of all aqueous fluid, by dipping it in absolute alcohol. To mount it, put a small drop of Canada balsam and benzine upon a glass microscopic slide, and put the cover-glass on it with the bacillar surface immersed in the balsam. This will soon harden, and will preserve the preparation indefinitely. The plan depends upon the fact that once the bacilli are stained red they cannot be decolorized by the nitric acid, which bleaches everything else; it is much facilitated and hastened by doing it at a warm temperature. By this method the bacilli are seen scarlet, and the other elements of the sputa blue. The bacillus is about one-third the size of a red blood corpuscle, and requires a power of at least 500 to exhibit it satisfactorily. The process is delicate and a little tedious; and from my own laboratory experience of it, I doubt if it will become a clinical test in general practice.

Cancer of the Ileum.

In the alimentary canal malignant growths are most frequently found in the buccal cavity, respectively, tongue, etc., in the œsophagus, stomach and rectum. But that also other parts of the intestines, and especially the ileum, may oftener suffer from this complaint than many imagine, we learn from the report of Dr. Du Castel (Archives Générales de Médecine, 1882, ii. 7.)

The cancer of the ileum has its origin in the lowermost end of the small intestine, near the Bauhin's valve and its near neighborhood. Experience has shown that it may be limited to the valve alone, which latter then loses its elasticity, and is changed into a solid plate, by which the locomotion of fæces is prevented, and sometimes totally ceases. In case the cancerous masses break down during the course of the disease, the passage is again open, and diarrhœa instead of the former constipation becomes the rule, as is always the case whenever any inflammation exists near the ileo-cœcal valve, which does not totally occlude the opening. Upwards this cancer rarely spreads further than 5 to 10 ctm., but if of long duration it will extend to neighboring tissues, the peritoneum, lymphatic glands, and especially the colon. The primary seat, however, of the carcinoma, in such cases, is always the ileum, and so all cancers in the intestines are at the end of a segment: cardia, pylorus, rectum.

The Curability of Cerebral Aneurism.

Dr. James Grey Glover reports an unusual and interesting case in the *Lancet*, March 31, 1883. Nine years ago the patient had an aneurism of the internal carotid artery, which ruptured, the extravasated blood was absorbed, and she recovered. After nine years a second aneurism developed near the old one, just as the vessel leaves the carotid canal at the base of the brain, within the cranial cavity, of course. The only symptom she had during her illness was paralysis of the third cranial nerve. She was perfectly well until three weeks before her death, when she was taken sick. She suddenly became unconscious, and remained so for twenty minutes. She came out of this, and the attack passed off, leaving only ptosis, dilated pupil, and strabismus. Ten days later she had another attack, similar to the first, but more severe. From this attack she rallied, but the third attack followed. She became suddenly unconscious, and remained so fourteen hours. The autopsy revealed the aneurism which had ruptured, and the obliterated sac of the old aneurism which ruptured nine years ago.

Muscular Atrophy Following Affections of Joints.

The occurrence of a case, where in a young man after a contusion of the right knee-joint debility and atrophy of the quadriceps m. of the same side followed causes Charcot to discuss the fre-

quent appearance of such lesions after affections of joints, especially of a surgical character, in the *Progrès Méd.*, 1882, Nos. 20 and 21. Most authors are of the opinion that in consequence of the sensory nerves being irritated by the affection in the joint, in a retrograde manner, a change takes place in the place of origin of the motor and trophic nerves in the spinal cord. They are "dynamic" disturbances without deeper lesions; the electrical treatment, therefore, is usually followed by recovery. Charcot seems to confirm this idea, and mentions that the reaction of the atrophic muscular structure to the electrical irritant is quantitatively only decreased. Reaction of degeneration, as noticed in cases of muscular atrophy due to morbid organic changes in the motor nerves or in their centre in the spinal cord, is never observed in the cases in question. Charcot also lays stress on the fact that the electrical spark of an electrical machine induces very strong and energetic contraction in such muscles, which respond very feebly only to the stimulus of the induction coil or of the constant current.

On the Connection Between Disease of the Eye and Affections of the Sexual Organs in Females.

Dr. C. E. Fitzgerald read a paper recently on this subject (*Med. Times and Gaz.*, March 24, 1883). He related a case in which a violent neuro-retinitis occurred some time after a sudden cessation of the menses. The vision improved under treatment, and with the reappearance of the menses. In a case of disseminated choroiditis with floating opacities in the vitreous, multiple fibroid tumors of the uterus were found; and it was suggested that possibly these tumors affected the circulation, so as to react injuriously on the delicate vascular tissue of the eye.

Referring to masturbation, he thought that the habit was practiced by females much more frequently than was generally supposed, and mentioned three cases in which he believed it had acted most injuriously upon the eyes. He considered the subject one of grave importance; and that, however unpleasant it might be, it ought to be thoroughly investigated. He believed that the majority of cases of asthenopia in young women which were not benefited by glasses were due to this cause.

Osteoma of the Corpus Striatum.

We frequently note cases where persons since childhood had a paralyzed limb, the nutrition and development of which never progressed since the time the lesion first made its appearance. The usual history of such cases is, that the individual, when in his earliest childhood, became suddenly sick with fever and irregular pains, when, mostly after a day or two, without any apparent cause, the gradually increasing helplessness of the affected limb becomes apparent. It is rare that we have the opportunity of recording after the death of the person the pathogenic morbid condition, and two cases, therefore, reported by Dr. A. Bidder in Virchow's Arch., lxxxviii., p. 91, are of decided interest. At the post-mortem of one of these cases, that of a man æt. 39, who since his childhood had suffered from paralysis and contracture of both extremities on the right side, the development of which had also continued in *statu quo*, an irregular shaped bony body was found in the substance of the left corpus striatum. The microscopic examination revealed it to be an osteoma. B. gives besides the history of a case, where the individual is still alive, and where exactly the same pathological condition exists, and also since early childhood.

Atropia for Ear-ache.

The *Boston Jour. of Chemistry* says that Dr. A. D. Williams recommends its use as follows:

The solution is to be simply dropped into the painful ear, and allowed to remain there from ten to fifteen minutes. Then it is made to run out by turning the head over, then being wiped with a dry rag. The solution may be warmed to prevent shock. From three to five drops should be used at a time. The strength of the solution must vary according to the age of the child. Under three years one grain to the ounce, and over ten years four grains to the ounce of water. In adults almost any strength may be used. All ages will bear a stronger solution in the ear than in the eye. The application should be repeated as often as may be necessary. Usually, a few applications will stop the pain. In acute suppurative inflammation of the middle ear and acute inflammation of the external meatus, atropia will only slightly palliate the suffering, but in the recurring nocturnal ear-aches of children it is practically a specific.

Glio-Sarcoma of the Cerebellum.

A case presenting prominently the following symptoms, viz.: 1. The history of a fever, which at first came on periodically; 2. Marked splenic enlargement; 3. Great muscular soreness; and, 4. Incomplete paralysis, was diagnosed by Dr. L. Emmett Holt (*Med. Record*, March 31, 1883,) to be

due to chronic malarial poisoning. The patient (four and a half years old) improved for a week, under the use of quinine (gr. xx. per diem). She grew worse, however, and diagnosis of tumor was made, which the autopsy confirmed. The growth was situated on the inferior surface of the cerebellum. This case teaches that we should not be too ready to atrribute obscure nervous symptoms to malarial poisoning, even in patients in whom indubitable evidences of such poisoning exists; and that a failure of full doses of quinine to affect the symptoms should lead to a careful examination for organic disease of the nerve centres.

New Treatment of Phagedenic Chancre.

The treatment proposed by MM. Vidal and Ferrillon against this ordinarily intractable form of the disease, has already proven successful in the hands of other practitioners. The preparations recommended by M. Vidal are the following:

℞. Acid. pyrogallic, ʒ v.
Vaseline, ʒ xx.
M.

This is employed in the treatment of superficial ulcerations without deep sinuses or pockets; for the treatment of the latter form the following powder may be dusted into all parts of the ulceration:

℞. Acid. pyrogallic, ʒ v.
Amyli pulv., ʒ xx.
M.

M. Ferrillon considers the following preparation as better adapted for general use:

℞. Ac. pyrogallic, ʒ x.
Vaselinæ, ℥ iv.
Amyli, ʒ x.
M.

The dressing should be renewed twice daily.

A Prescription for Acute Rheumatism.

In the *Brit. Med. Jour.*, April 7, 1883, Dr. J. Mortimer Granville says: In acute rheumatism, as early as possible in the case, give the mixture described below, in the diluted form in which I have prescribed it. Do nothing else, except to pack the painful joints in wraps of very loose cotton-wool, covered with light flannel; not oil-silk or any other vapor-proof material.

℞. Tincturæ aconiti, (*P.B.*) ♏ xij.
Ammonii sulphidi, ♏ xvj.
Aquæ menthæ viridis destillatæ, ℥ vj.

The dose is a fourth part, every fourth, or, in severe cases, every third hour, until the pain is relieved and the "fever" has abated. The mixture should not be prescribed in larger quantity than will suffice for four doses, on account of the tincture of aconite, and, more especially, the tendency of the sulphide of ammonium to decompose and deposit sulphur.

Extract of Calabar Bean.

This medicament has been recommended as an heroic remedy in obstinate constipation. Recent experiments undertaken in the service of Prof. Leyden, of Berlin (*Deutsch Medic. Woch.*), demonstrate that this extract has a very rapid and sure action in atonic states of the intestine, characterized by flatulence, meteorism occurring just after meals, a sensation of weight in the epigastrium, habitual constipation, etc. The medicament was given in this form;

℞. Ext. calabar bean, 1 centigram.
Glycerinæ, 30 grams.
M. Et. S.—Ten drops daily.

The patients are greatly relieved, but the benefit is rarely durable, and if the remedy is continued for any length of time, toxic accidents are apt to supervene.

Pruritus Urethræ during Gonorrhœa.

In the *Journal of Cutaneous and Venereal Diseases*, April, 1883, Dr. Wm. L. Axford mentions a most intense itching of the urethra often observed during the third stage of gonorrhœa. All treatment was unavailing until he found that distention of the urethra afforded relief. The passage of a catheter, however, increased the inflammation, so he resorted to the following expedient, which he has found successful. The patient was directed to hold the end of the penis firmly between the thumb and index finger in such a way that no urine can escape, then to make an effort to micturate, thus thoroughly distending the urethra and keeping it so for one or two minutes, the sensations of the patient to be the guide as to the amount of force to be used.

Iodoform Suppositories in Puerperal Septicæmia.

In the *Canada Med. Record*, March, 1883, Dr. Alloway presents the records of six cases of puerperal septicæmia, three of which had been treated by a new method, viz., the introduction into the uterine cavity of iodoform suppositories. In carrying out the treatment he uses a Sims' speculum, washes out the uterus first with plain or carbolized water, and then, with a tent-inserter, passes the suppository far up into the fundus. He uses them of the strength of ten, fifteen, or twenty grains, and usually introduces one night and morning. No poisonous effects have been noted.

Climacteric Dyspepsia.

Mr. Prangley read a paper on this subject before the Norwich Medico-Chirurgical Society. It occurs in women between the ages of forty and fifty. The symptoms are those of great nervous depression, with pain on the top of the head, noises in the ears, hot flushes and chills, with curious sensations in the abdomen. The dyspeptic symptoms are those of præcordial distress, with palpitation, costive bowels, coated tongue, and foul breath. The treatment consists in the administration of bismuth, bicarbonate of potash, and ammonia, adding valerian if the nervous symptoms predominate, followed by quinine, strychnia, and the dilute nitro-hydrochloric acid.

Condensed Milk.

Dr. Richard Neale raises his voice in the *Brit. Med. Jour.*, March 24, 1883, against giving condensed milk to infants. "At times, given medicinally, it is of great value; but, as a food, it is unnatural, and sooner or later the infant must suffer if thus fed. I have in so many instances seen the fatal results of bringing up infants on the condensed milk, that I invariably warn patients against its continuous use. The most robust-looking child thus fed has no vitality, and is frequently cut off by an illness that, under other circumstances, would have proved very trivial." We can corroborate his experience.

Phosphatic Incrustations of Urethra.

Though rare, yet it sometimes happens that, after lithotomy, phosphatic concretions form in the urethra, interfering with micturition and the passage of a catheter. Dr. S. S. Kahn, of San Francisco, reports such a case in the *Medical Record*, March 31, 1883. The perineal wound not having entirely healed, he introduced a catheter and injected two ounces of a one per cent. solution of boro-citrate of magnesia, and gave internally a teaspoonful of this solution every hour. Shortly afterwards, these concretions were passed, in consistence like putty, and in two days the urethra was clear.

The Treatment of Rheumatic Cardiac Complications.

Dr. Maclagan, of London, endorses the views of those who hold that salicin possesses the power of preventing cardiac complications in rheumatism. He considers small doses ineffectual, and recommends twenty to forty grains every hour for six hours, or until relief from pain is experienced; by its *early* use he thinks we may *prevent* valvular inflammation. Since *endo-cardial* complications frequently do not cause any pain, it would be well to incorporate the salicyl compounds in the treatment of *all* cases of rheumatism as a precaution.

Salicylic Acid in Rheumatism and Typhoid Fever.

In the course of a case of rheumatism in a child, related by Dr. J. P. Thomas, of Pembroke, Ky., in the *Louisville Med. News*, March 31, 1883, the author states that the following formula has proved to have so many advantages that he urges the profession to give it a trial.

R.	Acid salicylic,	℥ ss.
	Potass. acetat.,	℥ ij.
	Aquæ aromatic.,	℥ iv.
	Syr. limonis,	℥ ij.

M.—The usual dose for adult in rheumatism or typhoid fever, one tablespoonful every two or three hours, largely diluted with water.

Salicylic Acid in Typhoid Fever.

M. Valpian (*Med. Press*, April 4, 1883,) prefers salicylic acid to sulphate of quinine. The former was not only an anti-thermic but also an anti-pyretic. He never found it to produce a deleterious action on the heart, nor arrest the albuminuria which was almost constant in a more or less degree in typhoid fever. He had particularly remarked the absence of bed-sores and the abscesses of convalescence when salicylic acid was administered.

The Poison of Ergot.

In a recent communication read before the Chemical Society of Russia, (*Med. Press*, April 4, 1883), the author, A. W. Pehl, attributes the toxic properties of ergot to putrefactive changes set up during decomposition of the vegetable fibrin of the wheat. The poisonous products of putrefaction, denominated ptomaines, are due to the peptic action of the ergot, which is exerted to a very considerable extent, and so contributes to the splitting up of the elements of flour and their subsequent putrescence.

Fatal Vomiting of Pregnancy.

The *Proceedings of the Medical Society of the County of Kings*, for April, 1883, has a report by Dr. A. H. P. Leuf of a case of death from absolutely uncontrollable vomiting in a single woman aged 22. The autopsy revealed the third month of pregnancy, which condition was totally unsuspected. The moral of this case is to look for pregnancy in cases of inexplicable and persistent vomiting; for, had its true nature been recognized, this girl's life might have been saved.

Indurated Chancre between the Toes.

The *London Med. Record* notes that M. Leloir relates (*Ann. de Derm. et de Syph.*, Nos. 9 and 10, 1882), the case of a medical student in whom the initial manifestation of syphilis was situated between the second and third toes of the right foot. The patient was suffering from eczematous fissures between the toes, and acknowledged contact of the affected part with the lips of a woman who was afterwards found to be suffering from mucous patches of the mouth.

Second Infection with Syphilis.

Though rare, yet it is abundantly established that a man *can* have syphilis twice. Dr. Taylor presented a case to the New York Dermatological Society (*Jour. Cut. and Ven. Dis.*, April, 1883,) which adds another to the proof cases. The patient had a chancre in 1874, followed in two months by large elevated red blotches all over the face. The second chancre was contracted in 1881. In both attacks he had roseola, papular eruption, crusts on scalp, alopecia, and iritis.

Pencils of Sulphate of Zinc.

A demand having arisen for the above in ophthalmic practice, the *Pharmac. Zeitung*, February 28, 1883, says that they may be prepared by melting ordinary crystals of zinc sulphate in a porcelain dish in their water of crystallization, and then very quickly pouring the liquid thus obtained into cones of wax paper, similar to those used in the preparation of bougies.

Coffee in Typhoid Fever.

Recently Dr. Guillassee, of the French Navy, has given coffee in the early stages of typhoid fever with marked success. Three teaspoonfuls were given adults every two hours, alternating with one or two teaspoonfuls of claret or Burgundy wine. A beneficial result was immediately apparent.

Cauterization of Clitoris for Hysteria.

In neuropathic females, Dr. N. Freiderich (*Virch. Arch.*, vol. xc.) believes that an over-sensitiveness of the sexual organs, acting upon the spinal and cerebral centres, may cause hysterical symptoms. He has treated eight such cases by cauterization of the clitoris, and, though a painful operation, every case has been ultimately cured.

The Cold Douche.

Dr. W. H. Broadbent reports in the *Lancet*, March 24, 1883, a case of delirium tremens in which the nervous system failed to respond to drugs, and where the patient was reduced to the last extremity, and one case of sleeplessness and pyrexia after child-birth, both cured by the cold douche.

Iodoform in Laryngeal Ulcers.

Schrötler, of Vienna, says that in many thousands of cases of tuberculous ulceration of the larynx, he has never seen iodoform do any good. Some of our correspondents have found it to answer admirably in diphtheritic complications.

The Period of Incubation of Measles.

Dr. W. E. Green writes to the *Brit. Med. Jour.*, April 7, 1883, corroborating the statements of Mr. Vacher, and citing many illustrations to prove that the period of incubation in measles is fourteen days.

Hyperidrosis of the Hands and Feet.

The *Druggist* recommends moistening the parts once or twice daily with a mixture of naphthol 5 parts, glycerine 10 parts, and alcohol 100 parts; after which they are to be dusted with a mixture of naphthol and starch 2 parts to 100.

Supposed Hydrophobia Treated by Chloral.

Dr. W. H. Broadbent reported to the Clinical Society of London (*Brit. Med. Jour.*, March 3, 1883), four cases of supposed hydrophobia, treated by chloral, one of which recovered.

News and Miscellany.

The Struggle for a Living.

The following is taken from the presidential address to the Maine Medical Association by the late Wm. Warren Greene, M. D. (*N. Y. Med. Record*, March 24, 1883):

"Witness the large number of doctors in every city struggling for mere existence, and see how few out of the whole number really do the work. See how in almost every country village a full practice for one or two good men is piece-mealed by sharp and often acrimonious competition, to the detriment of all.

"It would seem that in a calling so high, so noble, so sacred, men fit for such ministry should be sought for; but the great question of the young graduate is not 'Who wants me?' but 'Who will employ me?' not 'Who needs me?' but 'Where can I get a living?' In the case of four physicians dying, each in a country village, during the last year, I am credibly informed that in one instance two, in another three, in the third five, and in the fourth case seven new men came to look the field over within ten days after the doctor's death, sometimes before the burial. In

one case ten attended the funeral, and in another the widow had three letters from aspirants for the vacant place while the dead body of her husband still lay in the house.

"It is a hackneyed saying, with which too many ears are tickled, that 'there is always room for good men.' Applied to the present condition of our profession, it is false. Were only good men and the best men admitted, it would undoubtedly be true. But all over the land, in city and country, are well-educated, cultured gentlemen, honest and loyal, striving in vain to secure a competence—yes, a bare living even—and too often is disappointment mingled with shame and mortification at the success of ignorant and unprincipled rivals. I have said that the evil results of this excess in numbers are manifold. It leads to over-practice and to bad practice. The man who is hard pushed, who has few patients, and needs more, is tempted to make much of little; to magnify the importance of his cases, both in his own mind and to his patrons; to make uncalled-for visits, and to give too much medicine; and unnecessary medication soon ceases to be rational. Patients are injured in mind and body. The community is injured by teaching the people to attach undue importance to trivial diseases, and to over-estimate the value of treatment therein. Legitimate, honest practice suffers in reputation; money is obtained under false pretences."

Arkansas State Medical Society.

The Eighth Annual Session will be held at Little Rock, on Wednesday, May 30, and Thursday, May 31, 1883, commencing on Wednesday at 10 a. m.

Each county or municipal society shall be entitled to one delegate for every five members, and one for a fraction over five.

The subjoined are the committees to report at the next meeting:

Committee on Medical Education: T. W. Hurley, Chrirman; W. B. Welch, W. A. C. Sayle, W. H. Hawkins, W. H. Hardison, D. C. Ewing, D. H. Dungan.

Committee on Practice of Medicine: J. A. Dibrell, Sr., Chairman; D. H. Dungan, T. D. Nichols, Z. Orto, G. W. Hudson, A. N. Carrigan, G. M. D. Cantrell, P. H. West, J. F. Simmons.

Committee on Surgery: J. A. Dibrell, Jr., Chairman; J. R. Dale, C. L. Kirkscey, Wm. B. Lawrence, J. E. Bennett, J. M. Keller, W. B. Welch.

Committee on Gynæcology: Edward Cross, Chairman; R. N. Ross, W. H. Heard, J. F. Blackburn, D. S. Williams.

Committee on Medical Legislation: R. G. Jennings, Chairman; G. B. Malone, A. A. Horner, C. Watkins, P. Van Patten, W. W. Hipolite, A. B. Loving.

Committee on Necrology: A. N. Carrigan, Chairman; R. B. Gladden, J. T. Jelks, J. F. Blackburn, G. S. Brown, E. H. Alexander, R. C. Wallis.

Board of Visitors to the Medical Department of the Arkansas Industrial University: Isaac Folsom, Chairman; J. E. Bennett, W. W. Hipolite, W. H. Hawkins, Z. Orto.

Committee on State Medicine: Z. Orto, Chairman.

Secretaries of local societies are requested to forward, as soon as appointed, a list of the delegates, together with a complete roster of officers and members of their respective societies.

Arrangements will be made by which reduced rates can be obtained by all who may attend the meeting.

L. P. Gibson, M. D.
Little Rock, Ark. Secretary.

Ohio Health Legislation.

The following bill was recently passed by the legislature of Ohio to amend section 2135 of the revised statutes of Ohio:

Sec. 1. Be it enacted by the General Assembly of the State of Ohio, that Sec. 2135 of the revised statutes of Ohio be so amended as to read as follows:

Sec. 2135. The Board of Health may take measures and supply agents, and afford inducements and facilities, for gratuitous vaccination and disinfection; may afford medical relief to and among the poor of the corporation, as in its opinion, the protection of the public health may require; and during the prevalence of any epidemic, may provide temporary hospitals for such purposes; and the said Board is hereby required to inspect semi-annually, and oftener if in the judgment of the Board it shall be deemed necessary, the sanitary condition of all schools and school buildings within the limits of the corporation.

Sec. 2. That the said Sec. 2135 be, and the same is hereby repealed.

Sec. 3. This act shall take effect and be in force from and after its passage.

Investigation of Cattle Diseases.

Commissioner Loring has decided to institute a series of investigations into the diseases of cattle, and for this purpose has designated Dr. D. E. Salmond, who has for years been connected with the Department of Agriculture. Experiments in inoculation, etc., will be made. The Pasteur system, and such modifications of it as have suggested themselves to Dr. Salmon, will be used. The investigation will be conducted with a special view of ascertaining the nature, and the means of prevention and cure of Texas cattle fever, pleuropneumonia, and hog and chicken cholera. The results of the researches already made by Dr. Salmond are such as to make him feel reasonably confident that he will eventually be able to discover remedies which will enable any farmer to prevent or cure the diseases mentioned.

State Board of Health of Wisconsin.

The State Board of Health of Wisconsin calls the attention of all town boards, village boards, and common councils of cities in Wisconsin, to the provisions of Chapter 167, of the laws of 1883.

This law makes obligatory—

1. The organization of a Board of Health in every town, village and city in the State, within thirty days after each annual election.

2. The appointment of a Health Officer by every Board of Health, within ten days after its organization.

3. The report of contagious diseases by all physicians.

The French Method of Collecting Statistics of Contagious Diseases.

In order to obtain daily statistics of the occurrence of contagious diseases in Paris, the Préfet of the Seine has distributed to all the medical practitioners of the city books of cards with counterfoils, on which are printed forms, leaving a few blanks to be filled up announcing the locality, the nature of the disease, where and how it was contracted, and so on. These cards as they are filled up are to be dropped into the post, and will be forwarded to the central bureau, where the statistics thus obtained will be classified day by day.

Leeches.

The *Chemist and Druggist*, March 15, 1883, says the plan that seems most uniformly successful in keeping leeches is to place them in a vessel of water about half full, with about half a dozen rough stones the size of oranges, changing the water about once in six months. If the sides of the vessel get covered with vegetation, clean them down with the water, but do not change it. If a leech dies and taints the water, it must be changed. As a rule, it has merely a fishy odor. Some prefer to grow water-plants, such as *Anacharis* or *Vallisneria*, in the vessel.

Items.

—On November 15, 1882, a polyclinic was opened in Rio de Janeiro, under the direction of Dr. Moncorvo.

—Governor Cleveland, of New York, has signed the bill prohibiting the manufacture of cigars in tenement houses in New York city.

—Judge Landen, of New York, recently ruled "that if a prescription of a regular practicing physician is put up as written, the druggist is not responsible."

—The Medical Department of the State University of Iowa will insist in future that all applicants for admission must pass a preliminary examination in the English branches.

—The Châteauvillard prize of the Paris Faculty of Medicine has been divided between Dr. Giraud Teulon for a work entitled "Vision and its Anomalies," and Dr. Cadial, for a "Treatise on General Anatomy."

—According to the statistical report of the State Board of Health, there were 25,942 deaths in New Jersey in 1882, an increase of 5,000 over the previous year. There were 8,837 marriages and 23,108 births.

The stiffest-necked boy in Schuylkill county lives in Pottsville. He fell off a farm sleigh and the runner passed over his neck. When a crowd from the corner store ran to pick up the supposed corpse, the boy scrambled to his feet and ran after the sleigh.

OBITUARY NOTICES.

J. C. DUNDAS, M. D.

Dr. J. C. Dundas, of Cambridge, Dane county, Wis., died of pneumonia April 17th. He was born in Norway in 1815, and after receiving a thorough medical education and traveling extensively, finally settled down in Cambridge, Wisconsin.

He was an intimate friend of Henrik Wergeland, the Norwegian poet, and also of Ole Bull, and J. L. Runeberg, the Finnish poet.

The doctor was himself a poet of no mean ability. He has contributed many poems to the Scandinavian press, and had intended soon to publish a volume of poems.

MEDICAL DIRECTOR J. C. PALMER.

Medical Director James C. Palmer, on the retired list of the navy, died in Washington, April 24, 1883. He had seen thirty-eight years of active duty in the navy, and had sailed all over the globe. He was a native of Maryland, and received his appointment from that State on March 26, 1834, entering the service as an Assistant Surgeon. He was attached soon after to the frigate Brandywine of the Pacific squadron. In 1836 he made the trip around the world in the schooner Vincennes, and afterward was connected with an exploring expedition from 1838 to 1842. He received his commission as surgeon in October, 1841, and served in the Home and Pacific squadrons until 1856. He was then ordered to the frigate Niagara, accompanying that ship in the cable expedition of 1857. After a short service at the Naval Academy at Annapolis, he was made Fleet Surgeon of the West Gulf squadron during the earlier part of the war, with his headquarters on the flag-ship Hartford, and was present at the battle of Mobile Bay, August 5, 1864. In 1866 he was ordered to the Naval Hospital in this city, and from thence was delegated to special duty at Newport until 1872, when he received the appointment of Chief of the Bureau of Medicine and Surgery. This office he filled for a year, and retired from active duty in 1873.

QUERIES AND REPLIES.

B. C. R. "Day on Headaches" is a very good book.

MARRIAGES.

HALBERSTADT—MOORE.—On Thursday evening, April 26, 1883, at St. Luke's Church, Germantown, Pa., by Rev. W. Maule, LL. D., assisted by Rev. W. Lewis, D. D., Dr. George H. Halberstadt, of Pottsville, Pa., and Edith, daughter of the late Dr. Thomas Moore, of Germantown.

LAFFERTY—TOWNSEND.—On April 10, 1883, by Rev. A. Donaldson, D. D., J. H. Lafferty, M. D., of New Florence, Westmoreland county, and Miss Anna M. Townsend, of Maysville, Armstrong county, Pa.

MARSH—ATTRIDGE.—On April 9, 1883, in Keene, N. H., by C. Fred Webster, Esq., Dr. David Marsh and Mrs. Catharine Attridge.

PUTNEY—YOUNG.—On April 17, 1883, at the residence of the bride's parents, Brooklyn, E. D., by Rev. Dr. Eddy, Helene S., daughter of Dr. John Young, and Dr. Willis S. Putney, of Bethel, Conn., son of Rev. R. C. Putney, of the New York East Conference.

DEATHS.

ROSENCRANTZ.—In this city, on Sunday, April 22, Dr. John Rosencrantz, in the 74th year of his age.

SHARPLESS.—In this city, on Sunday, April 22, Dr. John T. Sharpless, in the 83d year of his age.

WEBB.—In this city, on Tuesday, April 24, James P. Webb, M. D., in the 84th year of his age.